

Front

1998. Central States Field Trip
May 29 - June 16

Book 1

Thank
You

1. Nashville, TN
2. Georgetown, KY
3. Cincinnati, OH
4. Marion, IL
6. Dubuque, IO
7. Decorah, IO
8. Mitchell, SD
9. Rapid City, S.D.
- ~~10. Billings, MT~~
10. Missoula, MT
12. Spokane, WA
40. Billings, MT

①

Locations from Holland & Patzkowsky
p. 258. B. - Bailey section. Fernvale &
Bailey Parkway } Sequatchie Fm

p. 258. VV. Vietnam Veterans Highway
ca 200 ft of section. From top of middle Ord
into "Henderville Sh" Leipers Fm, Anaheim Fm
& Fernvale/Sequatchie Fm ✓

p. 258 Springfield Hwy. SH.
V. high Fernvale/Sequatchie Fm ✓

p. 7W. Peyton's Warehouse. Anaheim Fm.
Bottom X-bedded ss. succeeded by
peckstone. ~~? Is it a long RR at~~
Goodlettsville. located ✓

CV, WPM are all in same area along
US 231

Log 9. Ashland City Pike

St. Hwy no. 12

see p. 89 Wilson (19)

for Section beneath

Cumberland R. bridge ✓ checked this
+ p. 90 at Tordonia out

97.5

Basslet, R. S. 1932. The stratigraphy of the
central basin of Tennessee;
Nashville, Tennessee Division of
Geology, Bull. 38, 268 p.

1/ 221m
total
section

2 1/2

31

61

11

C2

C1

31

4675

1-21

6

3 1/2

V. Shaly Ls
whitely & wackes

51

$\approx 100 \text{ m}$

begin

base
red.

From H & P (1997). J. Sed. Res. v. 67, p. 263
Vietnam Vets Highway. Series of roadcuts
on both sides of exit ramp from TN 386
(V.V. Parkway) onto ~~the~~ US 31 E. Goodlettsville
TN. Quad $36^{\circ}18'N$, $86^{\circ}39'W$. Additional
roadcuts just west & east of exit
ramp along TN 386. lowest part of the
section exposed at roadcut on

Chuck has measured about
105 ft. \approx 32 meters

but Holland & Pafzhowsky, 1997.
have 152 m at Vietnam Veterans
highway intersection.

May 29, 1998 - Stop 1-B (2)

West on way from south bound to
 There is covered interval between top of
 Stop 1 and base of Stop 1-B

Coll. 5/29/98 H at Stop 1-B

(Interval seems fitting H+1" to
 interval L measure 11')

Total section
 113' ±

??-SP ~
 Leipers?

concretions (pachyderm)

✓ silty fine
 concretions and
 calc. siltst.

Platonic

(? MFS)

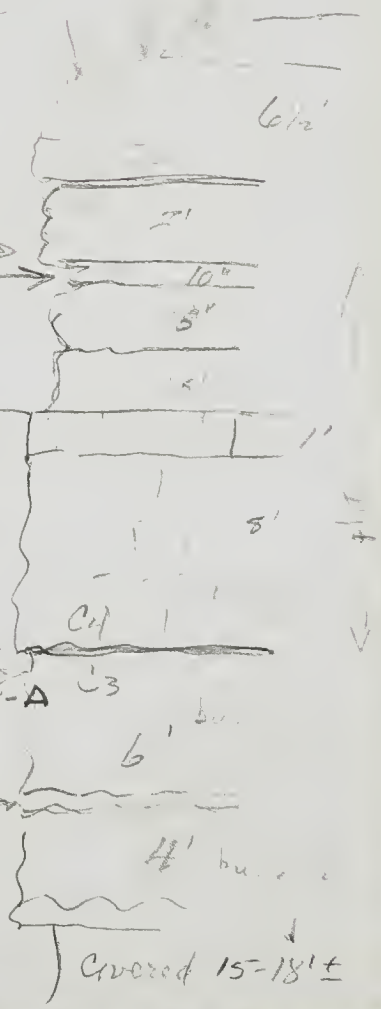
non dep. to...
 laminated lime mudstone, some...
 fine silty...
 1-2' gypsum nodules com.

Arnhem

massive...
 Leipers
 (Constitution) Coll. 5/29/98-A C3

Playog...
 Ls, v. silty, internal ripples

con. distribution of fossil on crests
 ripples



5/29/98 - ~~Stop 2~~ (3)

(4)

Kapsir Way - "X" at corner, east, and

"Peyton Warehouse" is out of business

Kapsir Way is a short service road between warehouses on the east and US 41 + TN 11 on the west. It lies just east of I-65, 1.7 miles north on US 41 from Goodlettsville city limits,

rocks as far

C5

Hollander is then SB/TS, but I don't see evidence of

C4

(I don't see his "ball & grill" structures here either) -

large wall stone, bedding is quite even, 3"-4" apart, not laminated much; contains these thin beds across outcrop ± 100 yards

MF5?

light gray

ferruginous beds

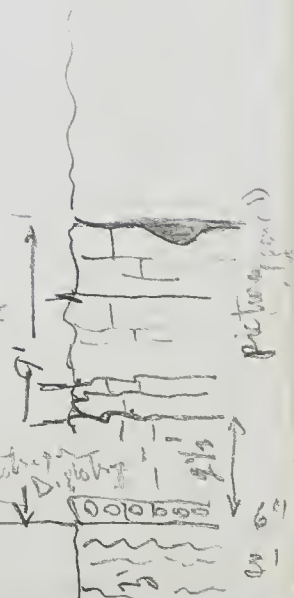
3 sets - see X bed sets
 $\pm 3'$ thick

C4 Calcareous X-bedded gray stone

(at base) Crinoids with rounded stippling

C3 nodular packst, shaly

Large



5

Suppose

2199

Agitate in water

Dr. J. C. (18)

Calceolaria, 8th July

SB

Sutton, Luc. 100

Slate / better 4th

Vugacy

(Streptococcus, septa gone under)

Congl^o calcareous, solitary, coral common (gr. us. etc.)

(SB) Solovitef, large le. ¹ minor beds

separated by this - so called I lamented
do

Shake / soil to to

I favor the higher one —

delostina, X bed. bed v. f ss, also burrow

Dolomite/sandy, burrowed

The machine, now made, as it were, by hand.

detrital, v. silty, fine laminae
X bedded,

71

11

1

511

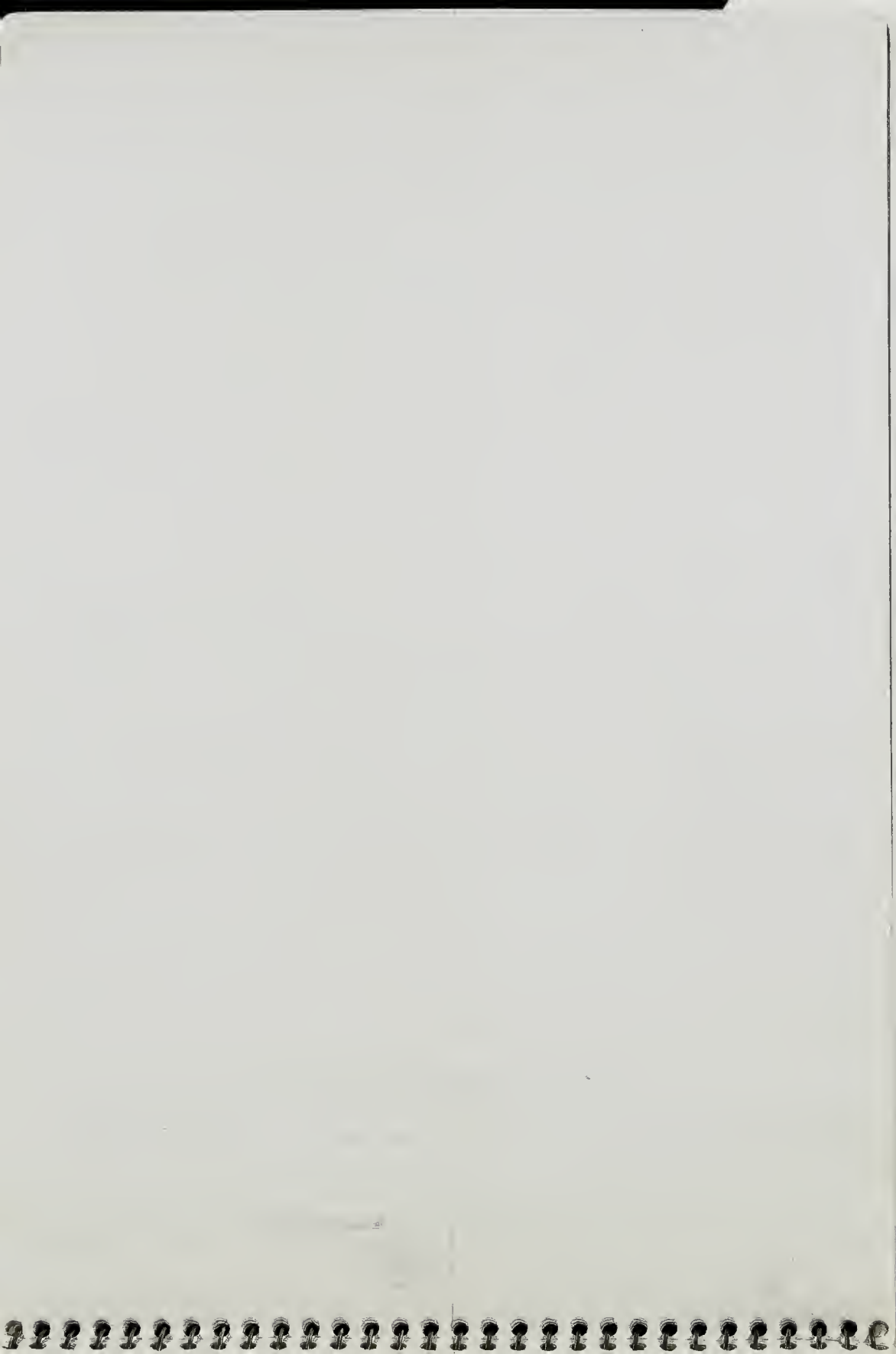
Figure 1

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

6

 $3\frac{1}{2}$

→ Pluto 10



(6)

Saturday, May 30, 1998.

③ Went N on US 24 to US 440 W ~~to~~ on US 440 W to Dr. D.B. Todd Bl then joined Clarksville Pike (US 41A + Tenn 12) on to Cumberland R. bridge. N. side of bridge Chuck took a track at telephone switch box down to outcrops of adamic limestones below Mt. King bridge abutment (upstream side). Mass of bedded, fine to medium grained calc. with some small tubes showing on at least one bed, grey, about 10' lower - suggest paleo...



Sat. 5/30/98.

(6) West of Cumberland Bridge off Clarksville Pike, ^{down 2 streets toward river, ca} 200 yards downstream from bridge location - substation in a residential area; see section below

See Wilson, p. 90

... for
...
...
partings



in water level

5/30/98 contd

p. 90. Wilson

1. Tordonia/Katon's Ch Rd. At on hill in private property. Did not pursue. V. weathered

2. ~~Just west of~~ ^{down} Nentry camp of TN155-

⑦ Briley Phwy at TN12 (Ashland City Pike)

≈ 2.5 miles west of ML King bridge (TN12) over Cumberland River

LS caliche

nodular beds

LS, dark gray, Vaggy, wackestone, gypsum nodules

LS, dark, w. silty, nodular + lamination

out
core
sample

2 1/2' siltstone, brown

15' mudstone

2 1/2"-3" siltstone

Calcareous, nodular, with lower beds

nodular

laminar

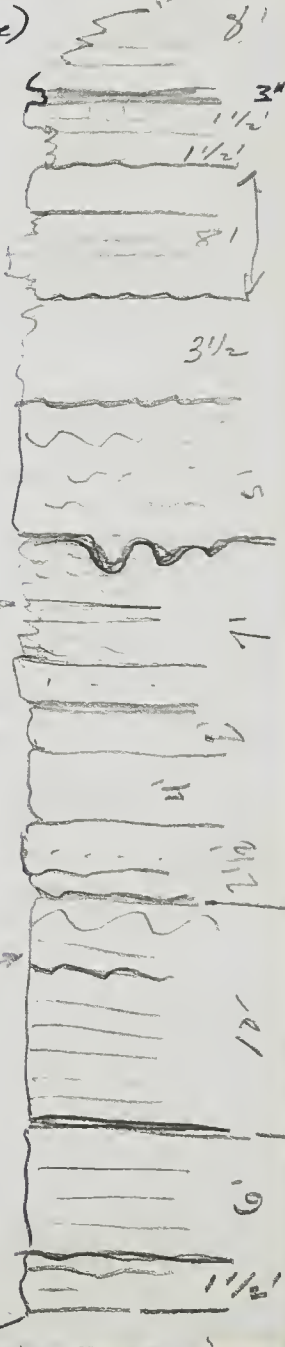
Silty ls., nodular beds in part, alt. with siltstone + packstone in part, (red bed top bed)

2" dark gray silty shale

red calcarenite, some lenses of

mudstone, packstone + wackestone

brach conch at top
dark calcarenite packstone



5/30/98

(9)

Clarkeville like at Briley Bluff (TN/55)

Section measured on SW corner of
cloverleaf; ^{east} south bound

off ramp - H+P's locality, ^{gyg nod}
~~junction~~ (this is junction with US 41 Alternate)

300' ... g... f...

... ..

... ..

... ..

... ..

lt grey ^{Cal.} siltst - massive ... (1)

... ..
... ..
... ..
base,

... ..

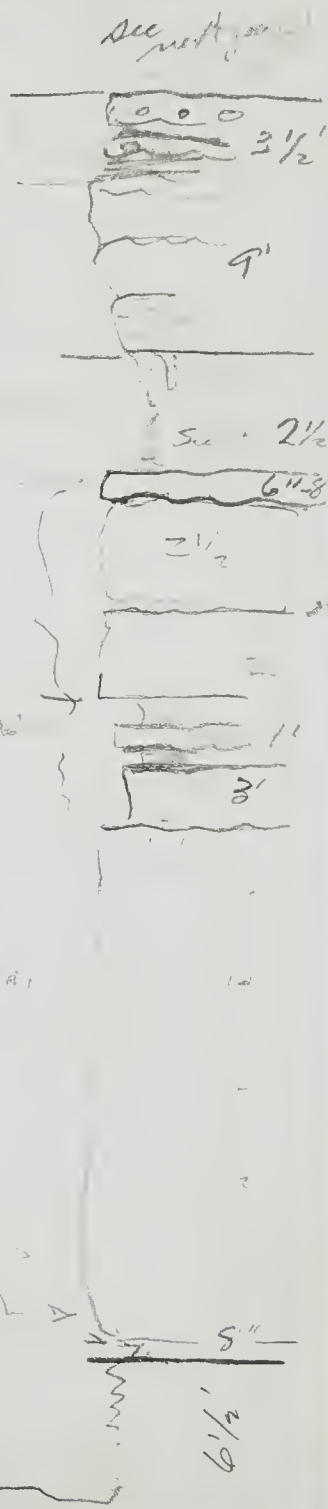
Calcareous - coarse, has fossils near base

Siltst. ... TS'

siltst/shale ...

Siltst, v. fossil, nodular ling. beds

brachs, bryos common ...



5/30/98

(LIS 41A)

(TN 155)

(10)

Clarksville Pike to ~~Briley~~ Briley Pk. section continued

from previous
pages

5 pictures here -

We think this was Holland & Patzkowsky's
(1997) p. 258. Briley, Hwy section. However, a lot
more section is exposed than shown by H+P.

→ Holland & Patzkowsky - - -
(1997, p. 258, Briley Hwy)

Calcareous, cross, granular ripple & beam

silt + fine sand

altered, massive "bed" in situ

Top

Covered 3 1/2'

1/2'

Ma
14'

7'

4'

Calcareous, cross, granular ripple & beam
silt + fine sand
altered, massive "bed" in situ
Calcareous, cross, granular ripple & beam (3" each)
calcareous, cross, granular ripple & beam
troughs

Gradate

5/30/9 Wilson (19) locality

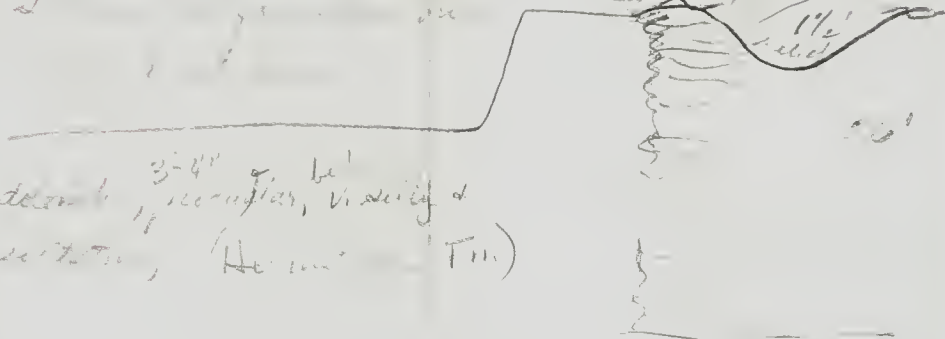
(9) School for first railroad near to
pretty much covered for 1/2 mile, then a
cut in it

Bigby Ls.)

don't know where it is

x note could be soft

photo



Ls, detrital, 3-4' & 1' be
washed, (Hemlock Tm.)

photo

behind School for the first railroad
Wilson, p 21-23 suggest the Bigby is a
deposit.

TN255 Donelson Pike north bound
at Nashville International Airport.

10 5/31/98

See over page

(nest locality)
see page 14

p. 97.

Bakers Station section. (Wilson loc.)

Nashville Airport (Holland & Patzowsky loc.)

Stop 1 * E. side rd, fresh cut

North bound off ramp to

Int. Nashville Airport

Measured exposures on E. side

Calcareous fossil debris / sand interbedded with silt, 3" band

Silt, light gray, fine to med. sand

Silt, light gray, fine to med. sand

Dark blue + orange (ps) and siltstone (limestone), calc.

3" to 3" bands, brown silt + 1 1/2" calc.

bedding -

(= Curdsville Mbr)

Dark band (hard gray)

Ls, well-bedded 3" 3" bed.

and also at ... silt

Shaly limestone - bottom

limestone (at base)

highest 1 1/2" is a calcarenite, with soft sand different

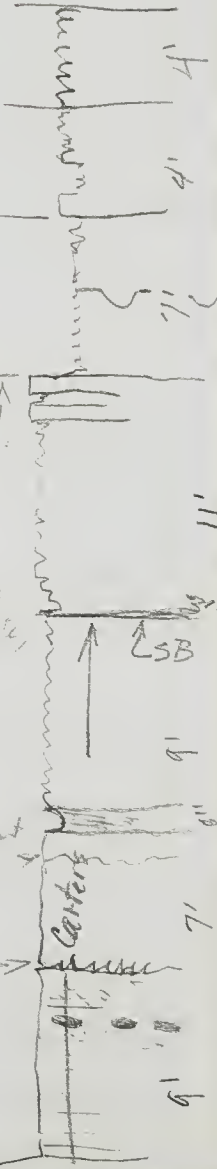
Ls, beds 3" - 4", calcarenite, calc. silt, X-bed.

Ls, v. f. grain + pocket / ...

then calcarenite interbedded with calc. silt, X-bed

Calc. in upper part.

continued page



picture of road cut

Styolite

* It may be that E. side of road had been widened & \therefore presented a more unweathered section in comparison to W. side which was not as complete at top of section.

5/31/98

(13)

Nashville Airport

Continued from p. 12

Donelson Pike, north bound exit.

not accessible
(several notations made in
which are at base of *Dalmanella*
coquina beds)

SB

Calcareous, burrowed

Calcareous/siltstone, as

Calcareous

Calcareous/siltstone, laminated, some parting of bedding
of beds. X can not be seen, wing bedding.

top of road

2 1/2'

Argillaceous

1 1/2'

24'



5/31/98

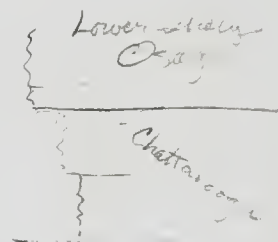
(14)

Baker Station - Rail Road Cuts. (Top 2)

(11)

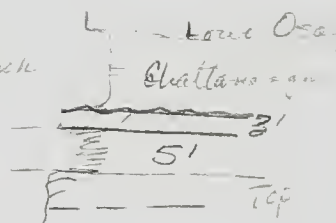
Northwest of Goodlettsville — The Baker Station Pk. crosses the ^(US 411) ~~Chattanooga~~ River about 2.25 north of Goodlettsville. Turn west for about 3/4 mile to railroad crossing. Park at tracks on north side, To S. 1. Three railroad cuts expose Osage down to ⁽¹⁹⁶³⁾ ~~Chattanooga~~ (see also ^{has} ~~not~~ farther S.S. to a 4th railroad cut.

parking place -



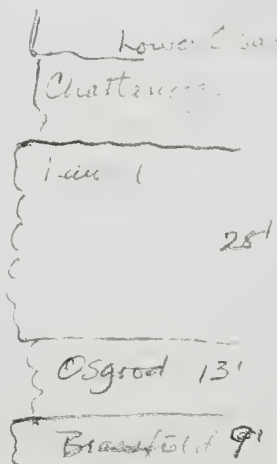
first cut south (275' south)

625' exposure along track
 (Wilson reports) ^{Legs} Waldron
 + we found) Laurel



2nd cut south (600)

(Wilson reports)
 + we found)



Continued on next page

Baker Station continued

3rd cut. (1550' southeast of cut 2)

350' long cut

Top of cut -

We did not climb overgraben
(had to find Brasseford)

- ① Ls, irregularly bedded, silty,
fairly well weathered
- ② Silty-shale and mudstone in 4"-8" beds

Ls, massive, X-bedded, coarse calcarenite,
coral bed, lower 2' in brackets,
(*Dynastotracia*, *Herbertella*,
Rafinesquina)

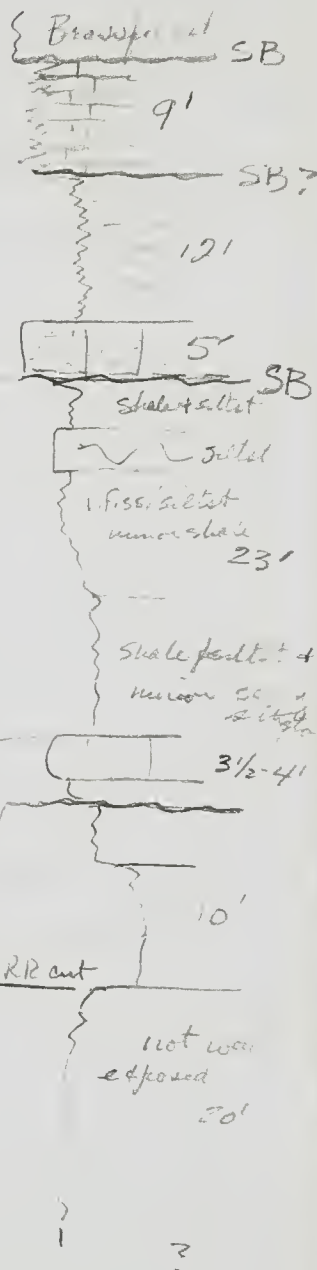
- ③ "Shale + mudstone"

disrupted siltstone

- ④ *Streptopora* a coral bear
Rafinesquina (?) or *Strophomena*

- ⑤ Siltst, calc. burrowed
shag siltst.

- ⑥ Arnheim

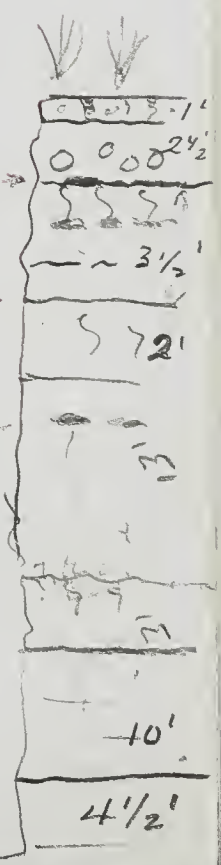


June 1, 1998 - South Nashville
~ 1.2 miles west on US 412 from intersection with US 31
at Columbia, Tenn - Stop 1 (12)
See fig. 1 p. 5
Road to the NW of RR & TN 111
US 412 - a by-pass route around northern Columbia.

Ls. conglomerate
SB?
Ls. burrowed upper surface ripples up and has a chert
band (irregular) yellowish chert bed
coarse to fine calcarenite, wacke- fossiliferous
Ls, calcarenite and paleo/wackestone bedding
3-6" beds"

5
photos
here

Ls., lenticular, but less so + top
are wavy and sometimes out as vugs
Ls., very burrowed, wackestone + calcarenite
calcarenite, occasional



Hummingbird (17)

[illegible]

Thru Columbia N. section of Holl. + Paterson Hwy, 1997, p. 15

dark on Ls. Hackstone
+ siltst.

did not find H+P3
HST units

30-34' - 40' ? (Tyrannosaurus)

4'5' are oxidized

4-5' nav, sh

Lower Carter (no upper Carter)

Charity, particularly in
London!

Chart number 2

Monday 10th Exit 30 + leave on 10th,
H+P 9/1

14

This is set back, on back of page

see note on back of page

Location W (Chl) Hor ... 11/12/98

... TN50. 5 photos.

V. S. shaly / rubbly to ex abundant fossils
... / cephalo

Collect. 6-1-98-B

(mfs?) → 2" brown bed

Shale + siltst.

shaly

siltst.

Ls, ms, w/ ... 2 2 1/2
2" ... 3-4" ... SB?

micrite

1' - 3' Leds, polygonal ...

Ls. clean calcareous

... burrowed

... brownish some clay pebbles
Ls, buff gray, go / ps, ...

X-bedded at top, phos ...

Coll. 6-1-98-A

frag bryo bones

ironstone 1"

silty Ls, rubbly calcareous. fossiliferous stone ...
brownish (phosphatic?) ...

silty lg with brachiopods, phosphatic

Ls, massive in 2-3' ledges, wiggly
... / phos - X-bedded

SB?

H + P 97 place a SB ^(mudstone) in the micritic bed, = $\frac{M6}{M5}$, I
suggest that the micrite is a max flooding unit, and
the SB is either at the base of the micrite or (and) about
34' below in a conglomeratic ls.

5-1-78

at IN 313

U.S. 65 EXIT 32, H4 P 1997, p1
(middle Lebanon Ls) (15)

Ls, ledges irregular, brown weathering,

Coll. 6-1-98-C Reef siltstone, biog, trilobular, columnar
Dolomitic, burrowed

Coll. 6-1-98-D

Ls mudstones, siltstones, some silt clay

siltstones, light gray, gray
large *Orthis* & *Productus* burrowed

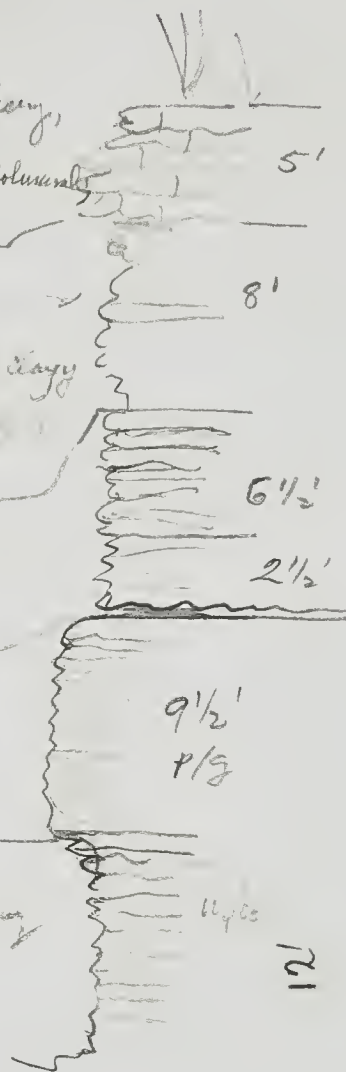
1 photo here

Ls, w, p, g, in 4-6" beds, thin

lt gray siltst, vuggy, ^{foam} molds

Ls, lt brown-gray irregular 2" beds, has
little white spheres (? *poecilia*?)
burrowed, fairly common

Ls, nodular bedding, and siltstones, lt gray
burrowed



14

2.2 miles NW of

Oil mill

(20)

on Tenn. #17 Lewisburg & Tenn. SW of junction

with US 431 & Tenn. SD.

(16)

(part of the red)

upper

hot. sandst.

of bed

Ls, w. chert, recessed some X-bedded, browned, well bedded

SB-7.

Ls, calcareous v. brownish, some X-bedded,

See notes on back of page

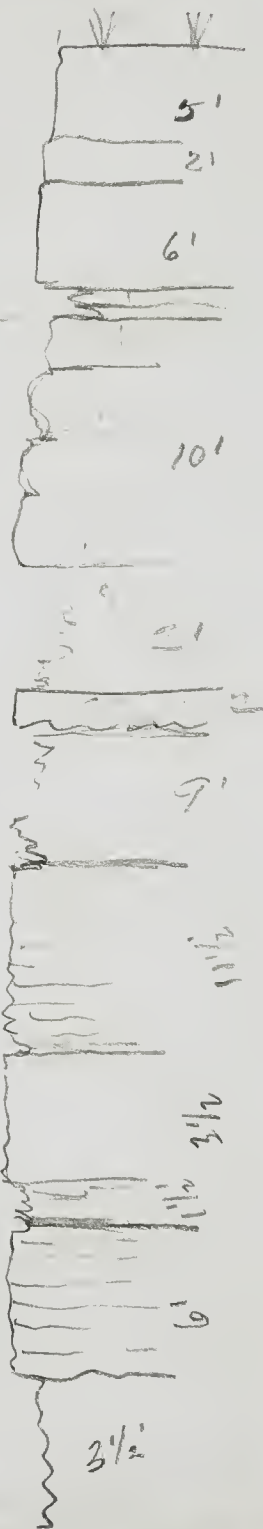
more silty

Ls, sandy calc., irregular bed. & calc. siltst

Ls, calc. p/g?, brown mottled

Ls, silty, nodular, browned, calcareous

Ls, silty & silty



Apparently H+P considered the X bedded as a metamorphic bed
as T^{sch}sch, ^{these beds} ^{well} ^{could} equally be interpreted as
a t. H^S

6/2/8 - Tenn 840 - a

(17) Tenn, 1/2 mile NW of next stop westward HP "CV" out. - This part is repeated in HP's 97 'Central Valley' section.

Tenn.

Ls. g/p

Ls., m, w, some silt stringers near middle and higher dark gray, blk chert nodules in lower part.

bentonite ? 2" - 1' mudcracks / burrow, in exp. 10'

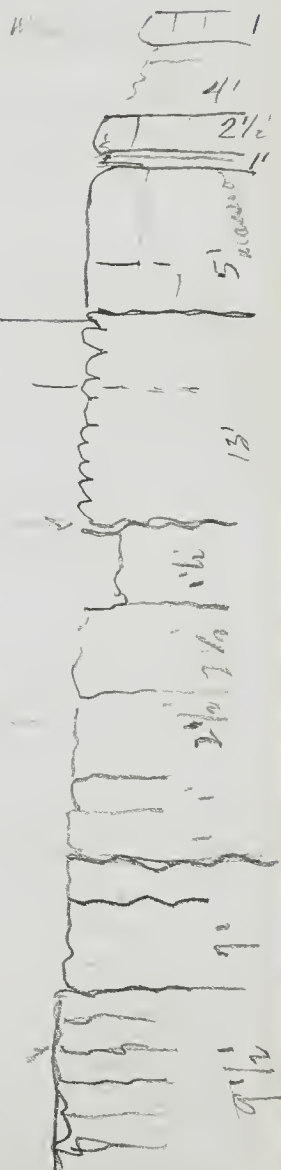
burrowed

major beds 2"-3" long

Ls. m/p
Gast, Orthoceras

(one gas)
Ls., wack stone / mudst. / burrowed, etc.

Coll. 6-2-98-A large, and fossiliferous



Let me

6298-Stop 2 H+V's "CV" section, on TN840

(18)

about 0.9 miles S of center change

sandy, silty ls. - 2"

ls, similar to below, well bedded in top 4'
m/w bita

ls as below

ls. nodular bed, sandy bit stringers,
internal set. disrupted, bk int nodules

calcareous
corrugation

ls. nodular m/w, silty bands,

many lt gray, horizontal set stringers (1/2")

in upper half. bita water! tubes & m

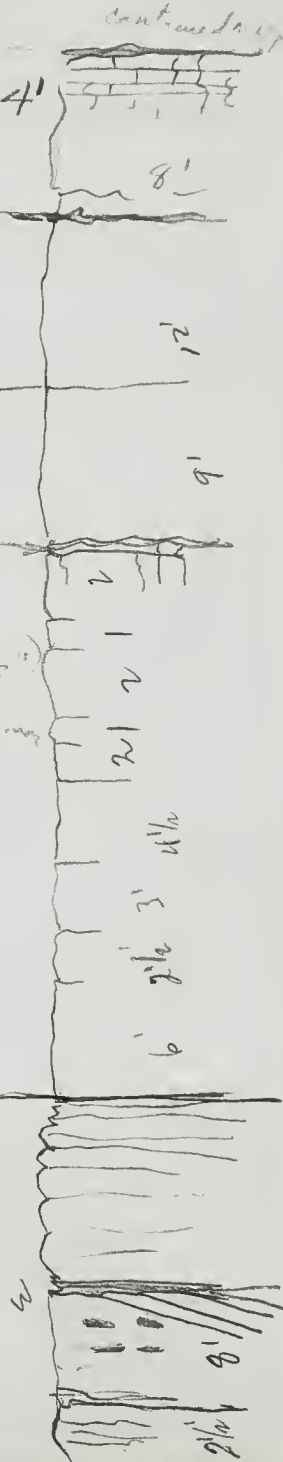
like upper surfaces,

1" silt on bentonite

ls. bedded fine calcareous p/g, frag. fossil
clasts in lower down, 2-4" beds,
interbedded with lighter silty ls.
dark gray

ls. laminated p/w/mottles, bk clasts nodules
med gray

ls, w/p, silty ls



6-2-98 - Stop 2 continued

(24)

Ls. section

Ls, massive, burrowed up

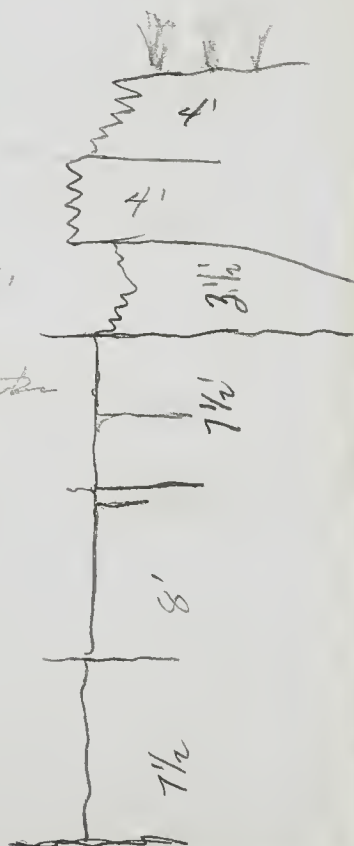
Ls, silty shaly nodules, a lower, 80 m long,

SB $\frac{M3}{M2}$ of P+H 97. →

Ls, massive, w/m with bioturb. fill of siltation
and v.f. sand (carbonate)

(H+P 97 called these 3 "beds" pseudo-
grainstones!)

much
lighter gray
than beds
below



6-2 98 - 56p3 LaScasas, H+P Locality

- (19) Road cut on TN 96 ^(northside) just west of junction with TN 266
(This is northeast of Murfreesboro on TN 96) (about ~~2~~ ⁸/₂ miles)
(opposite gas station)

Photo of Clarence shale tree

Ls., m/burrowed/silty gel.

Ls., sandstone below with more silty ls.
interbeds

Ls., similar to below, chert nodules mostly
lower part,

Ls., v. calcareous, siltstone burrowed,
bk chert nodules 3"-5"; tabular, fine grained,

Siltstone, w/ minor ls, silty ms.

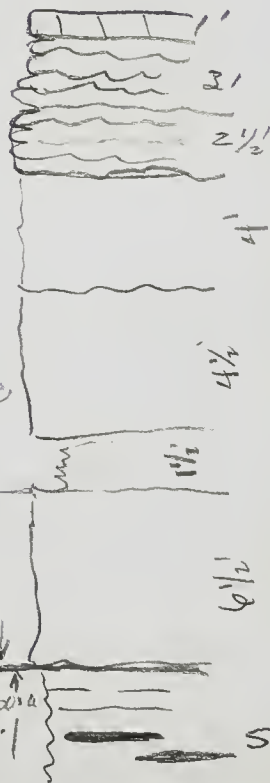
Ls., ms, burrowed;

H+P 97 call this a SB

(probably) SB

Siltstone/calc., w/ fine calc. X beds, Murfreesboro

Ls. /
Lenses of blk chert 3' long parallel to bedding





(6-3-98 through 6-5-98; car repair)

(25)

6/6/98 $\approx 1/2$ mile west of Dr. 50

(20)

at point with 45705

2 pictures - from the same place

LS, in layers, burrowed, covered and filled with r.f.p.s. -
irregular wavy, bedding, rip-up, clay, mudstone

LS, w, and p

LS, surface, muds,

2-3' band

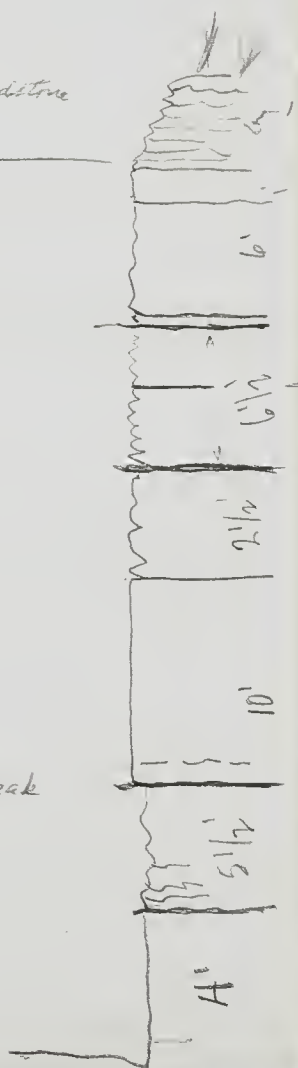
LS, burrow, etc. with r.f.p.s. -
present.

LS, mudstone, bit of ... mud 11.5' thick
a few 1" cur. Vags

2-3" relief 1/4" green slab/s. lat. bedding break

LS as w.

LS. muds w/ wavy stone filled ...
mudstone





6-6-98

(26)

U.S. 125 at Trickle Creek -
West side of creek. Section illustrated
is from creek up to road cut

(21)

2 photos - 1 of ~~the~~ 2 in ch cut incl. unconformity

Collection 6-6-98-A ^{phylograptus + Stictograptus}

LS. calc. p/g, ^{and mudstone} ostracods, small *phylograptus*, and
mudst burrowed 3"-5" beds, m. g.

LS, m. bedded, calc. w/ thin beds of brown calc. and
fossil id. f., mostly det. as *R. graptus* b.
bryoz. *Phylloz. id.* - a smaller size
(f. as re. calc. surface)

LS, similar to above, but more thinly bedded

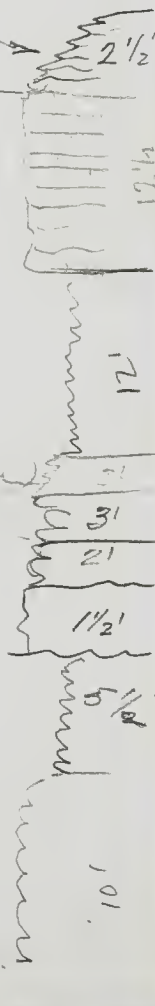
- mostly large ostracods *Rafinesquina* b.
- Calc. fossil bones on most beds, very surface

LS. mudst w/ pebbles of rip-up mudstone, in mudstone, some
burrows, burrowed mudst

LS. coarse calc. with pebbles, grains, 6"+ relief at base
rip-up clasts, from bed below SB

LS. burrowed mudst, 3" x 1" beds,

LS. burrowed w/ m/f - 1' ledges



6/6/98

(22)

Carron Fork locality. Road cut on
just east of Cannon Co. line both sides of road

(27)

Sept 1 next

3 Photos.

(3 overlapping photos)

SEWARD TILL

Ls. b...

First step-back

Ls. ... fine-grained ...
... ..

Ls. ... gray muds / browned filled with darker,
v.f.

Siltstone + shales

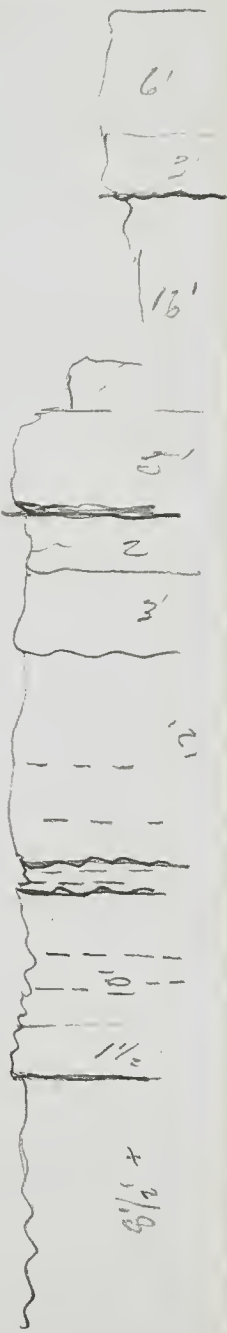
Siltst. ... gray, (more ...) 3"-8" bed - thin to E.

Ls. ... muds, ... w/ siltst ... 1'-6" bed

Lenses of med carb. ... (P), 2 v. silty browned beds

Ls. ... ps, 2-3" siltst

Ls. p/g, ... silty ...
wavy, 1-2' ...

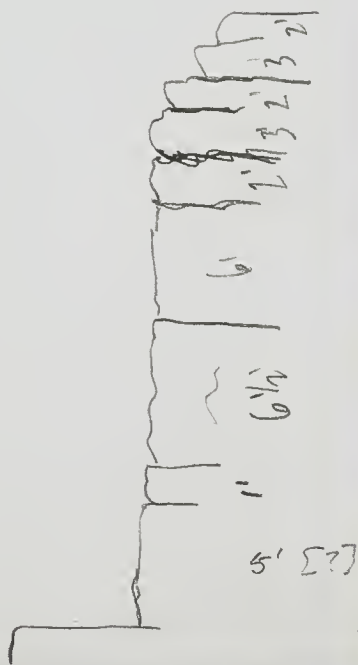




6/6/98

(28)

Continued from p 27





6/6/98, Hollis Creek locality - 11-10-1997, p. 257.
M4 + M5 part of section (23)
On Rutheford Co line

Ls. m, burrowed, with 2 thin ripples
... .. 2/9?

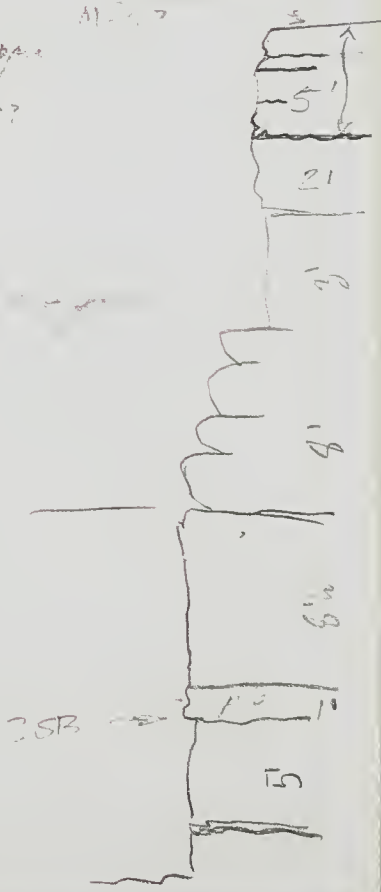
burrowed ms/ws,
... ..

bedding surfaces on 1/2" scale.
... .. and

burrowed ms
X folded pack
burrowed ms

Ls., burrowed ms

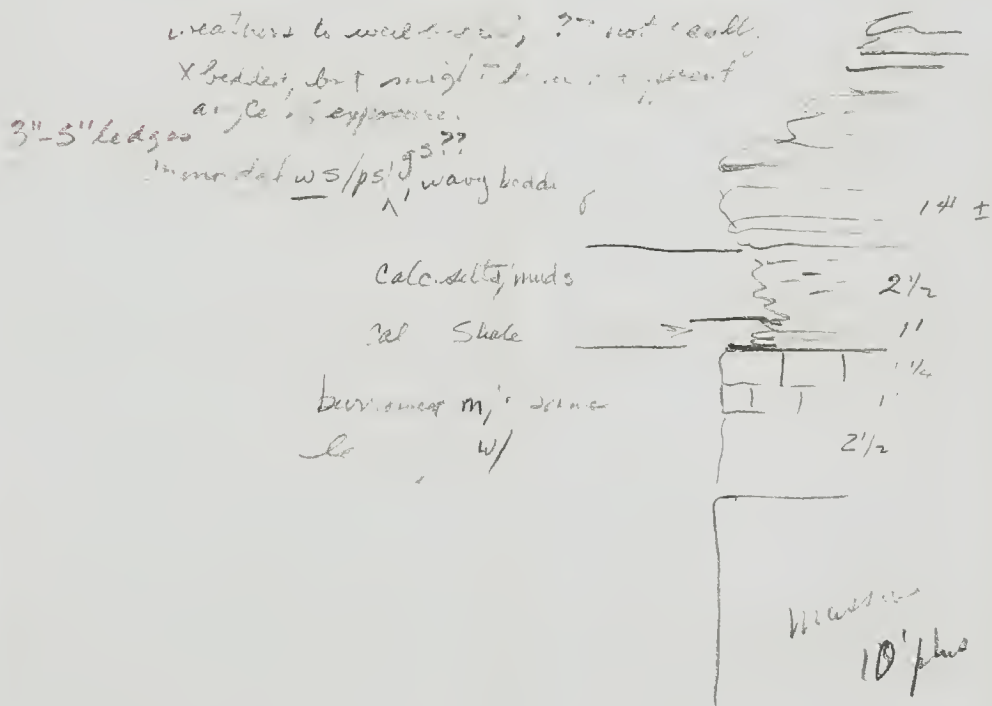
... ..
... ..
... ..



2 photos

6/6/98 Old Woodbury Pike / Cripple Ck Rd (30)
 (24) West end of Readyville Rd & junction
 with US 70S.

Photo above otes on p. 29
 (lunch stop)



6/6/98 Mile post 4
US 70 S = 4 miles west of Allwoodbury
25 Photo - 4 miles west of Allwoodbury

6/6/98 Mile post 4
US 70 S = 4 miles west of Allwoodbury
25 Photo - 4 miles west of Allwoodbury

6/6/98 Mile post 4
US 70 S = 4 miles west of Allwoodbury
25 Photo - 4 miles west of Allwoodbury

6/6/98 Mile post 4
US 70 S = 4 miles west of Allwoodbury
25 Photo - 4 miles west of Allwoodbury

6/6/98 Mile post 4
US 70 S = 4 miles west of Allwoodbury
25 Photo - 4 miles west of Allwoodbury

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

(2b) US70S 4½ miles west of Woodbury
[4 Photos total] ^

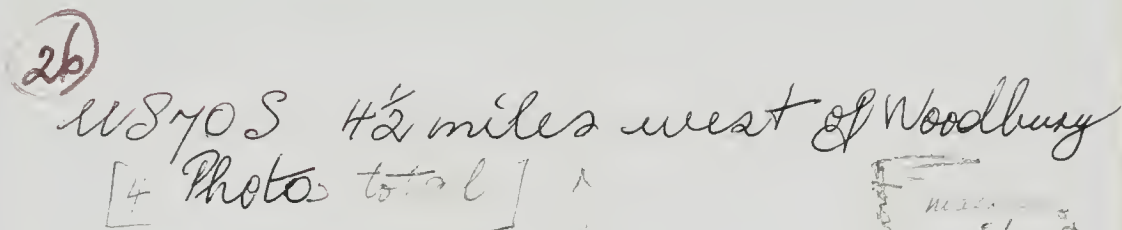
(2b) US70S 4 1/2 miles west of Woodbury
[4 Photos total]

(2b) US70S 4 1/2 miles west of Woodbury
[4 Photos total]

(2b) US70S 4 1/2 miles west of Woodbury
[4 Photos total]

(2b) US70S 4 1/2 miles west of Woodbury
[4 Photos total]

(2b) US70S 4 1/2 miles west of Woodbury
[4 Photos total]





(32)

6/6/98

Snow Hill on US 70 near Dwelltown

Dry Cr Rd → Old Snow Hill Rd
off US 70. about 2 ml east of
Dwelltown. Old Snow Hill Road is
part of the old abandoned highway
It curves around hilllope; is
overgrown. It enters the "new" US 70
at 2 places; 1 at the bottom of hill
& the other at the top of the hill

See p. 31. We have ~~1~~ photo¹ - need
to locate field location
CR thinks ~~they~~ ^{was} there before
Snow Hill (Prints ~~have~~ been
labelled as pre-27)

6/6/98 H+P 1997, Bluff Creek locality
 (27A) on Term. 53, 2 miles north of I-10 -

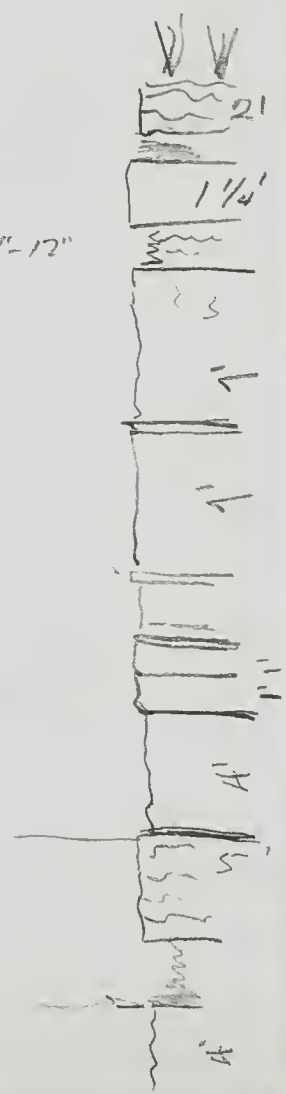
5 or 6 photos.
 (New road cuts - v. impressive high cuts)

dkz weathering away surface -

M. Brigs 4" ±

8"-12"

lt. dove



1 photo Davis
 2 photos of cut face

Ls, ms/w, lenses - w/ps;
 not much weathering

gray shale
 Decks

Ls.

Tanglewood
27B (27B)

6/6/98

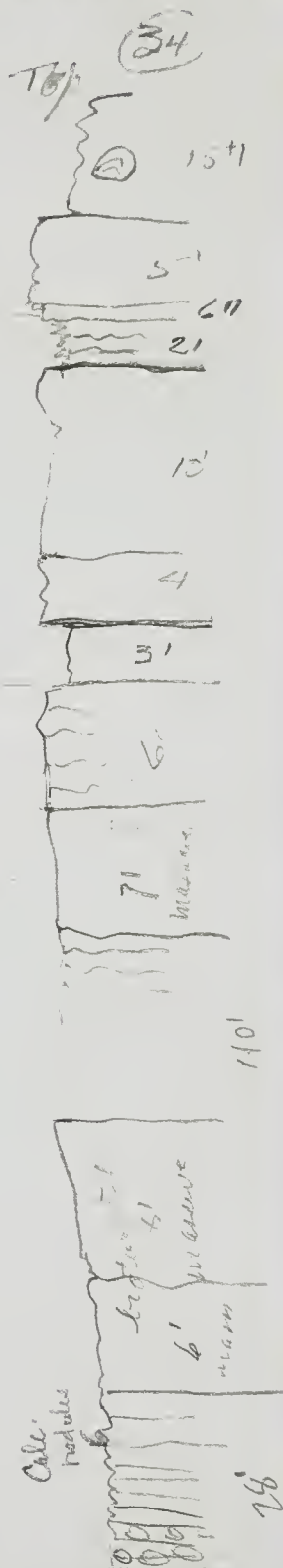
ps/gs and ws 6"-2' beds
ripple bedding

ps/gs
many bedded ps/gs and silty ps.

lt med gray

1/2" bk sh. parting
L. gray, calc. silt, v. calcareous,
ws/ps - ? flow bed

Descending to wavy bedded wackestone
above, lt med gray

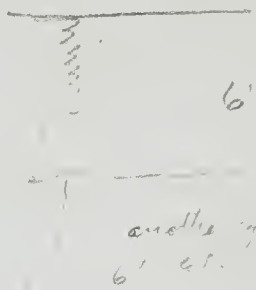


Lower 8' has mud cracks - rounded fragments
X bedded, to ESE,

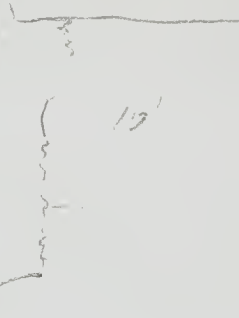
See page 33



Silty shales, some thin ls.
burrowed; in one part is silty
ss with no fossils
'weak'.



Siltstone, with siltstone. ... / m...
ph ...



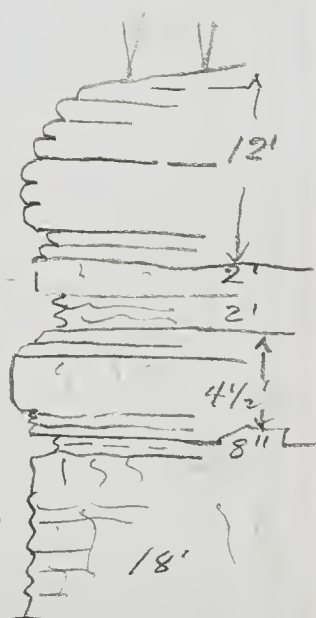
top ...

well bedded w/p

m/w

lt gray, silty bed

us/ps, and v. burrowed near top





6/7/98 - "motel" photo - Hermitage Fm, TN (36)

6/14/98 Gladice, TN H+P 1997, p. 257 + 292

(28A)

notes see for sections

(28A)

siltst 6'

2' 2'

4'

1" FeO₂ band

18'

2.8" - 10"

2'

3'

5'

9'

FeO₂

4'

4'

X-bedded calcarenite p/

This bed thickens + thins to "3" less to 10" w/p
v. silty, bioturbated ^{bedded} calcarenite + siltst

more calcarenite p/, 1' beds wedges in 2 1/2'
channels of calcarenite

bioturbated calc. silt + shales, p/
calcarenite p/

change to ... / ...

2 about 14' high as iron ... 2"

x-bedded coarse ... 2'

6"-1' relief on surface

① 2" db. from top, reddish

1" to 1' to ...

calcarenite

FeO₂

4'

4'

4'

4'

4'

4'

4'

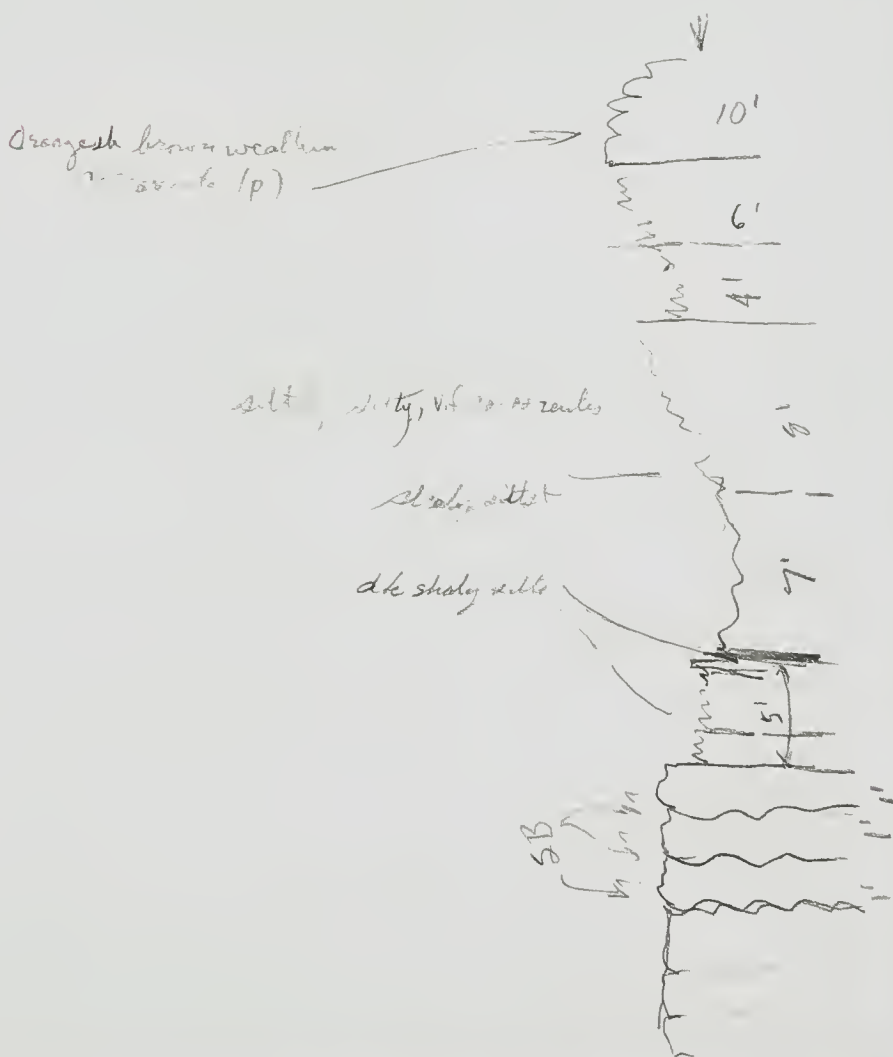
4'

37

6/4/98

6/4/98
(28b) Photo higher on hill - next outcrop
toward - Glodice Jackson County (near west s. hwy. 7 county)

... at the ...



(38)

6/7/98

(29)

Tennessee

Big Bottom of Holland & Pitzhowsky 1991

1 photo near center of shallow syncline
On TN 53, northeast of Gainesboro.

6/7/98

(30)

Mt. Celina, East of Celina and

0.5 miles E of Celina, on TN 53

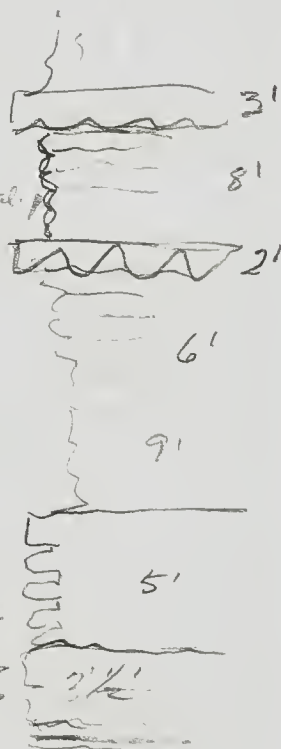
1 photo
1st
Road cut1 photo
2nd
Road cut

Ls

X-bedded calcarenite

p/s interspersed with finer calc.
coarse calcarenite, soft sand deformation
at base

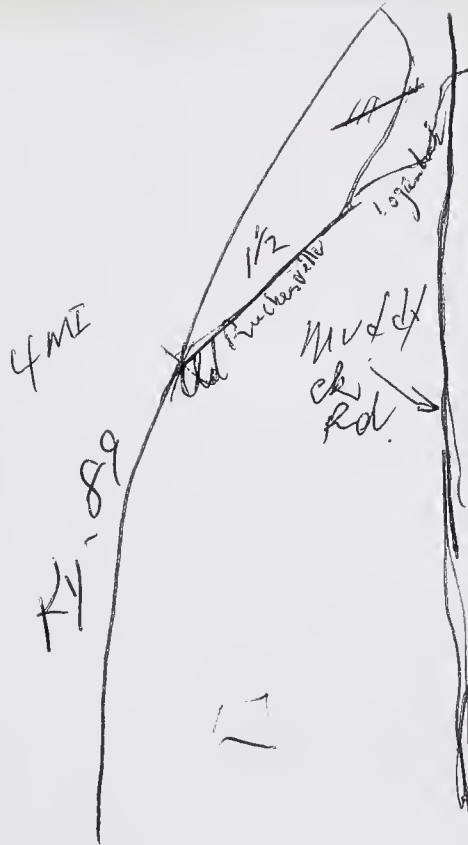
calc. siltst. v. s. siltst.

siltst.
20' thickLs, coarse m. p/s - Congl.
with dk shaly interbeds

HO



(41)



(42)

6/8/98 Logan Hick Road

(31) Left Georgetown motel (at exit 129) +
to Interstate 755 to Exit 96 to Winchester;
from Winchester we went 4 miles
on Ky 89 + met a y in the road;
took Old Ruckersville Rd to next Y where we
took Logan Hick Rd; wound down
+ around + // to railroad track encountered a
ca 10 ft section - covered w. vegetation.
Coarse-grained crinoidal packstone/
grainstone; beds are channelled
4'-5' across + 8" deep; some general
x-bedding on this kind of scale

Higher beds - calcarenitic, sandy
laminated; some beds with some
brachs. At RR track beyond underpass

Coll.
6/8/98 A. Clays Ferry Fm. - see diagram
on page 35 of Weir + Greene, USGS Bull
1224-B
3 up in section

(Had car checked for leaking?
differential oil).

6/9/98 - Delaplain loc. 171, 178., PP768 (B-E)

(32) Collection 6/9/98-A - lower part Millerburg Mbr.

SE side of road cut between Toyota Plant gates
Ky 620. (5344)

Calcareous f.p., med to fine, l. bedded 1' - 2'
limestone, f.p. (Collect. 6/9/98-C)

Silty shale, f.p. with
cut + led channels 2' x 1' f.p.
with l. f.p. and calc. 2' - 3' 1/2'
Shale section, 4 1/2'

Coarse calcareous (f.p.) 2' layers, brown, and
fastrifolds, wavy bedded, with
1/2" - 2" section partings

Coll. 6/2/98 E

fine calcareous w/ sh. section

4:30pm

Did not stop - Shift change at Toyota Plant
road cut NW of Toyota Gate 7, west
side of road. - mostly l. wavy bedded
calcareous f.p.; v. little silty shale

(H4)

6/9/98

(33) 28 Photos. Road cut S & W of Gate 7
shy 3/4 mile

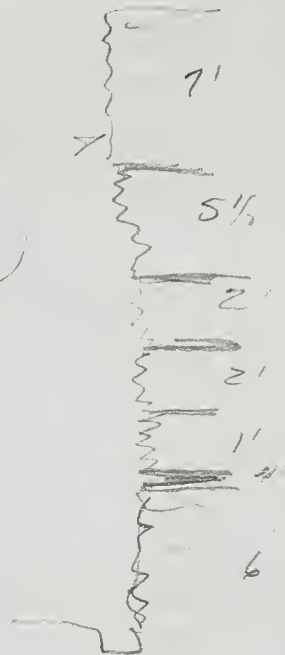
(Mile 4)

* Ls, calcareous, very bedded, fossiliferous.

X-bedded medium size

See road cut base of the
little 'cave'?

2" shale. all shales sea top -



Rd 2906 - more shale in sequence

* The outcrops on ^{Ky 620} Rd 2906 were adjacent
to large Toyota ^{plant} & it was all marked
"No Parking."

6/10/98

to Oxford East on Ky 620 from Motel.
no outcrops
along 45 460, about 100 yards east of Junction
with I-75, east of Georgetown.

LS, calc. p/g in 2" 8" beds

Common fossils, irregular red
bedding

LS. p/g and siltstone, 2" 4" beds,

notable LS on outcrop

1 Photo

Is this the Stamping Ground Mbr of
Lexington ls. large stromatopora
heads in 2 or 3 beds — 2-3 ft in
length. Bry

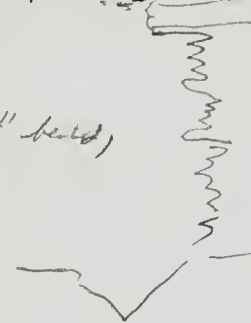
Coll. 6/10/98 A. At base of lower stromat.
bed

See Creasman, E.R. 1973 p. 38-39
(see his fig. 151 Georgetown A, plate 2)

Returned on Ky 460
to Stop 1.

(34)

Coll. 6/10/98 A



6/10/98

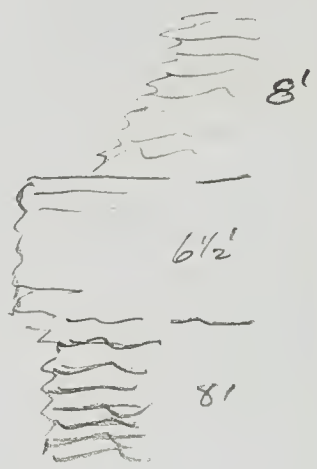
(35) Ky 460 in Georgetown
at Georgetown water tower at top of
hill. 1 photo. W. edge of Georgetown

Stop 1.

ls. med/fine, occasional coarse lenses,
thin silty partings

ls. v.c. calcarenite, X bedded, + sheet bedded,
v. little siltst, g./p
some calcisilt pebbles to some burrows

ls. med to fine calcarenite, p/g
ripples
siltst grooves in beds with v. thin
siltst partings

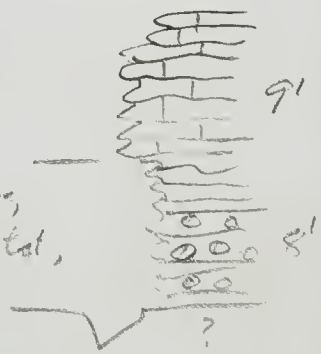


Stop 2 (36)

US 460 just beyond Ky 227 intersection
1 photo. Higher in section rel. to stop 1

ls. lt gray to brownish tan, 3"-6" beds,
med/coarse calcarenite, ripple bedded, a few
gastropods, almost a beach

ls. med/dk gray, 1"-2" beds, silty interbeds,
rip-ty clasts of calcarenite, calcisiltst,



6/10/98. Old Quarry on N side of McCormick Run
on County Road 1689, ≈ 1.2 W of Stamp Ground, $\frac{1}{2}$ mile

(37)

Sphatite

med/coarse
Ls calcarenite, 4"-6" ripple bedding,
2-6" beds,

Ls, brownish gray, calcarenite, in 8"-2' beds
med/coarse calcarenite, X bedded,

Ls, calcisiltite + fine silty sandstones,
2' thick or 4-6" ripple SB?

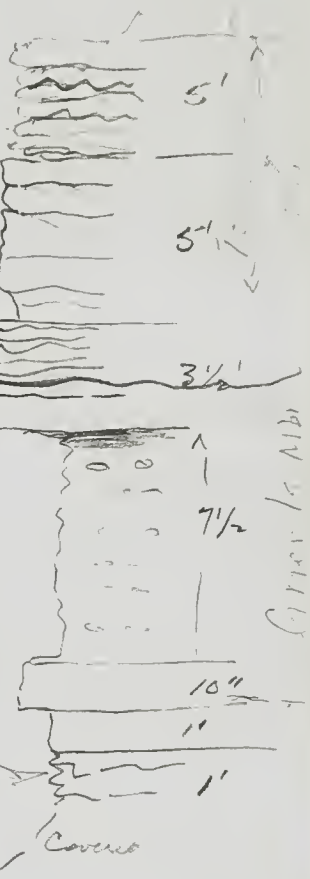
Siltst, calcareous, and small nodules of
limestone (calcisiltstones?)

calcisiltite, beds and silty calcarenite.

irregular bedding below

Floor X

fixed



Co. ...
...

(42)

6/10/98 - Stop along Ky 1262, $\frac{1}{2}$ mile southeast of
(38) junction with Ky 1900

one photo

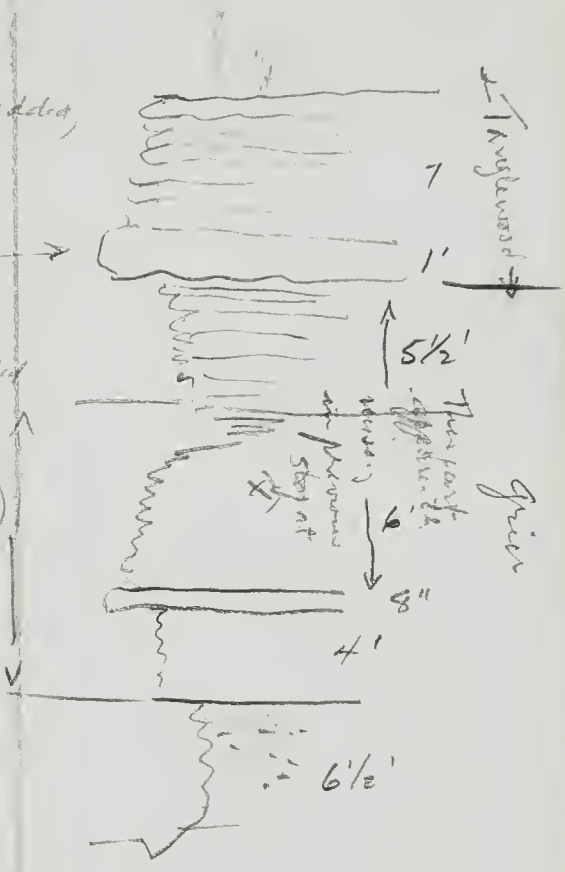
Calcareous to (g) 2-4' ripple bedded,

Calcareous to (g) massive →

Calcareous to g/p and some interbedded
siltst.

Ls. ripple bedded calcarenites p/g)

Calcareous to stone and
then is... siltst. and
fine calcarenites



6/10/98. 6, 1, 1, 1

(49)

South along Ky 1900 from junction with Ky 1262

(Sign reads Canoe, Ky 3.0 miles)

(39)

2" siltstone

Cent. concave

siltstone / low
ripple bedded Calcareous (p)

fine Calcareous, p., silty, 4-6" beds,

LS. silty calcareous and siltstone

LS., massive coarse calcareous,

rippled, pebbles of bryozoans

LS. X-bedded,

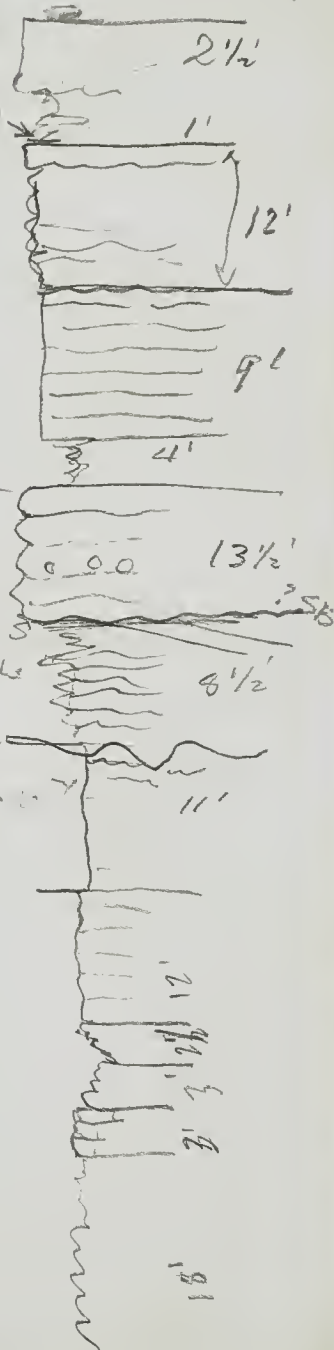
2" siltstone truncates to S

LS., nodular bedded silty calcareous, 4"-8" beds

concave into this 2' channel surface

LS. silty calcareous / calcareous

Calc. p. / siltstone



6/10/98

6/18/98 - day 1980

(50)

Tampa Bay area

med/ massive ripple beds
coarse calcarenite, well bedded & bedded

Siltstone with ls nodules

Siltstone interbedded

Calcarenite - 1/9 cross-bedded

SB? (photo) bed + pillow
incl. film

1" Siltstone / bentonite



6/11/98. East of Frankfort near Fork of (51)
Elkhorn

In S side U.S. 460, roadcut a junction.

Geo Georgetown Road (40)

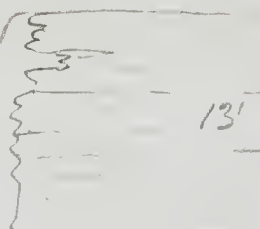


Ls., calcareous 6-1' thick

holds up top here

8'

Silty shaly clay, light brown, weathering



Ls., fairly well bedded, 4" to 8" beds,

Photo

Ls. mass, conglomerate?, 1/9
intercal X between



Ls., p. calcareous, silty; and
Calc. silty, well bedded



Ls., radiolarian, calcareous,



Calcareous, p.



3 1/2

largest beds



6-11-98

(52)

Frankfort, Ky (western side) just north of junction V V
 145127 and Ky 1005 (41) ↓ Top down

Ls. mass - rather thin - calcareous

L. calc. - all in

calcareous p/g

3"4 clay/silt.

Ls. X-bedded

F. calcareous p/g

Siltst (calcareous) + calcareous l. - thin
 and 3"4 calcareous - (calcareous -
 calcareous)

Calc. siltst

Ls, v. lenticular, large calcareous, rudite
 and calc. siltst, large scale X-beds.

siltst

Calc. p/g, X-beds from top to
 base in 10-12' horizon

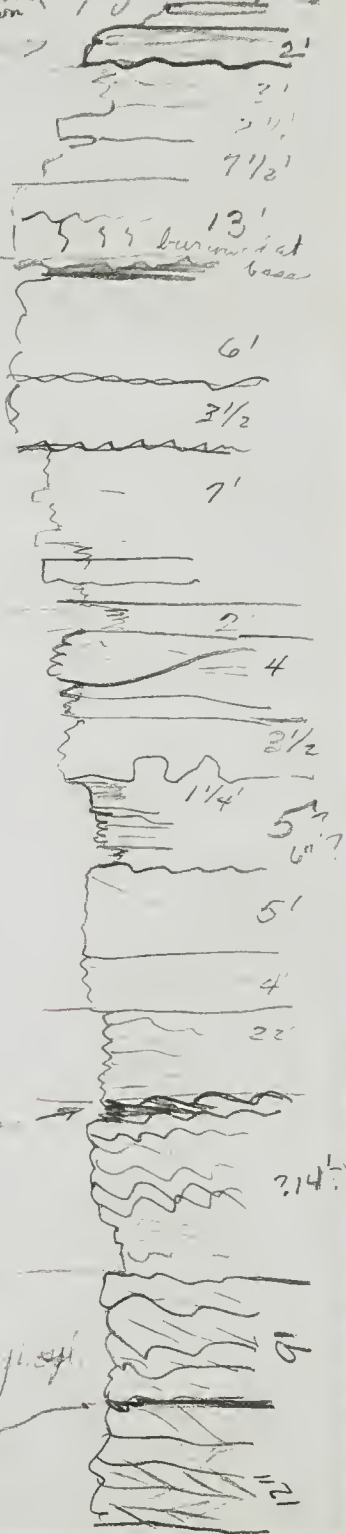
Homogeneous bedded l. - siltst 1/2
 2-4" beds dk gray

2-4" gray siltst

m. calcareous p/g silty mudst
 small scale l. - feature

pinkish large rudite, "chaotic" X-beds, which float

1" dk gray shale/siltst break



Photo

Photo

6/11/98 contol

53

Continued from p 32

siltst

0'-8"

pyrite? on phos. surface

X-bedded coarse calcarenites

conglomerate, pebbles + cobbles of

calc. to 1/2" bryos, med.

basal near base

cobbles

Bry. longer

ripple bedded calc. 1/3

photos

→ bed + thin bed

silty calcarenite

silty calcarenites + siltst p/

modular bedding 2"

med/coarse calcarenite p/g, X-bedded

bryos common

med, well sorted

long at base

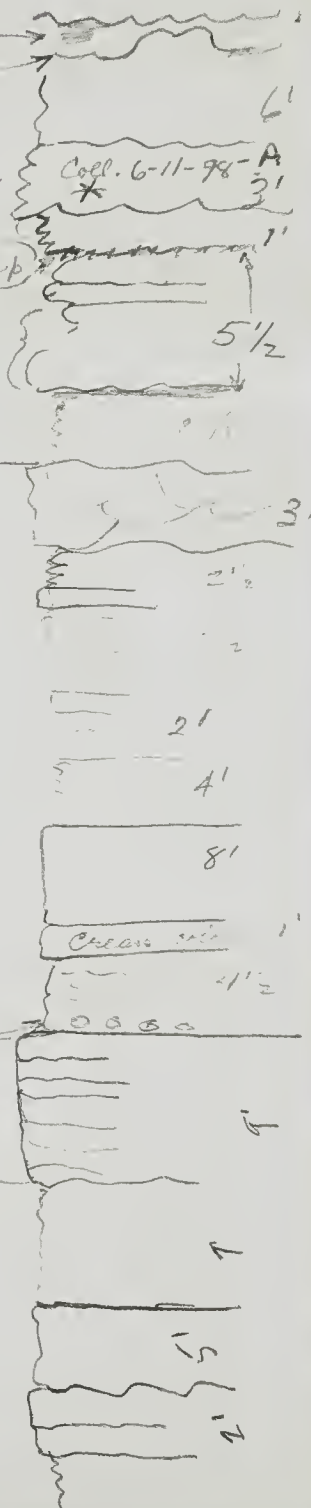
modular

(cream) lt br. gr.

6"-2' to 1' X-bedded

photo

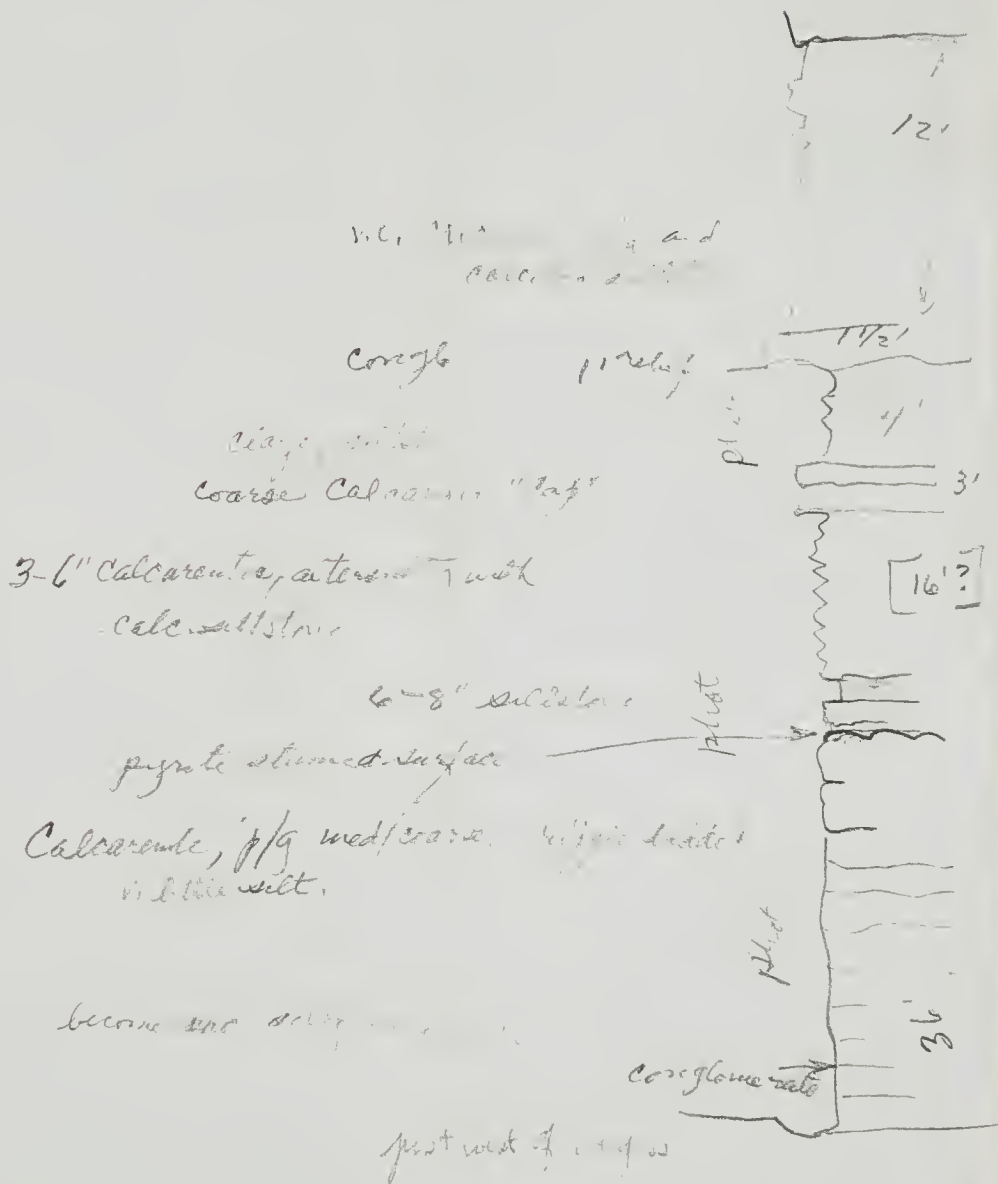
large 2-3" long cobbles





6/11/98.

Cont. from # 53

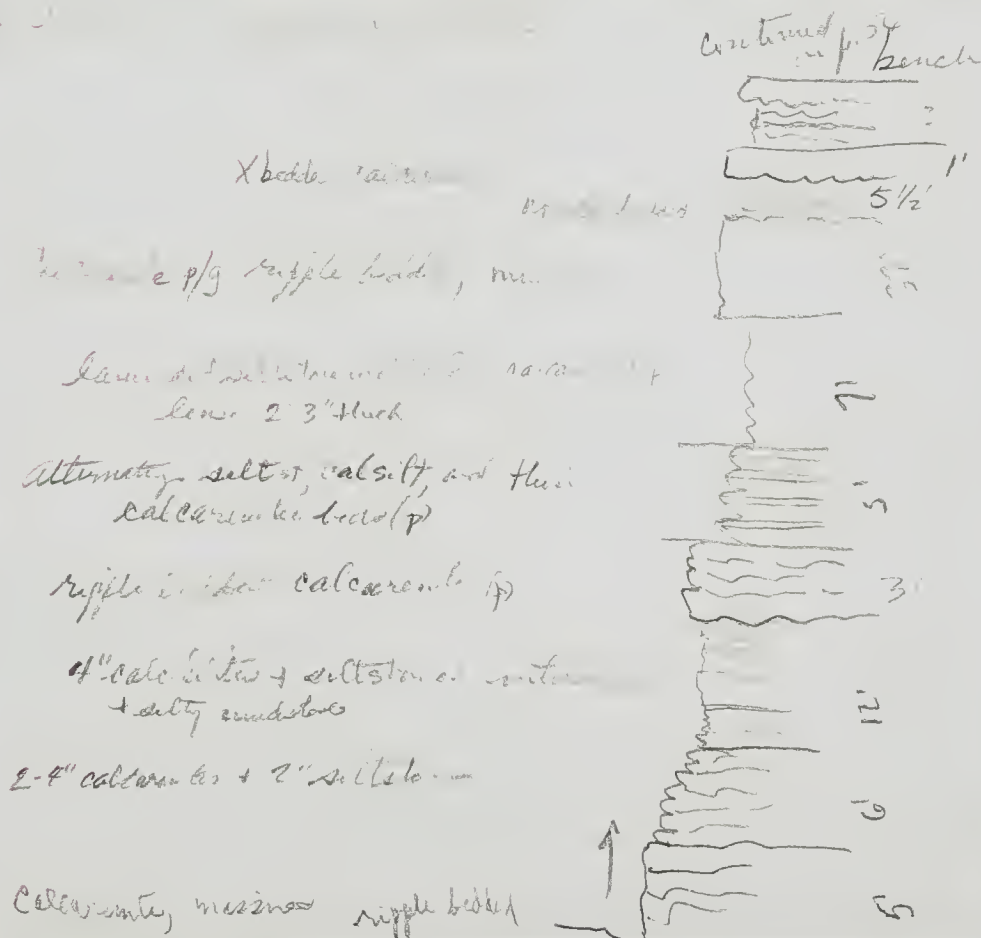


6/11/98 - West ~~side~~ side of Kentucky River, south of

(53)

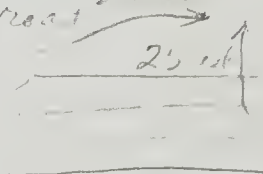
(42) Frankfort on US 421 (Bald Knob Rd), just
north of fancy intersection with US 60 and US 127.

2 photo. group part, \ down and channel out
carts.



6/11/98

this has chert and bio
top - see photo, a piece of rock
w/ s. x bed. calcare
brownish

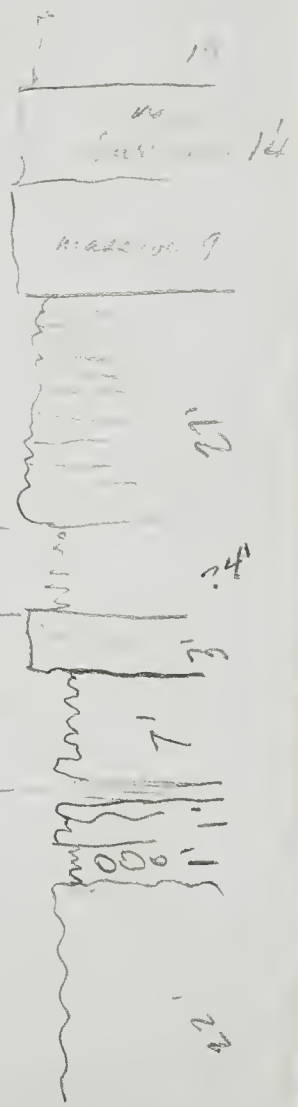


photo



x-bedded

upper bedded calcareous



Claystone
Calcareous coarse X-bedded
Ls. calcareous, silty, nodular
2'-3" alternating
dk gray siltstone 6"-16"
Congl. pebbles

calcareous, med/p/g, little if any chert
w/ any bedding, 6"-1' beds

57

6/12/98

Took I75 & then I 64 East to
Mt. Sterling. Some exposures around 2
Mt. Sterling exits. Photo Exit ramps from
I64 at Mt. Sterling, Exit ⁴³110 from I64. ⁴³
east bound. ⁴³

1 Photo - NE side of exit 110 (west bound - off ramp).

Silty, wavy bedded calcareous silt. abundant
large brachs., some thicker beds (6"-8") are found
with pelitic silt filling br. spaces - Callaway Creek ls.
Mt. Sterling, Ky

(44)



45

6/12/98

59

(45) Southbound x 86, immediately S of bridge over
Furness River on I 95 C.

2 photos of from 11.2.2000

v.f.
V. f. 11.2.2000 pos., some barriers, but lot of
'fleshy' structures, wavy salt-rich beds,
1' to 3' beds

0-3" dk gray alt. stone
channels with fossils (mostly bryozoans)
Concentrated

v. f. 11.2.2000 (p) - with fossil black rock
beds, slump features, truncation
fate, transported fossils (gastropods)

14

16'



6/12/98

6/12/98

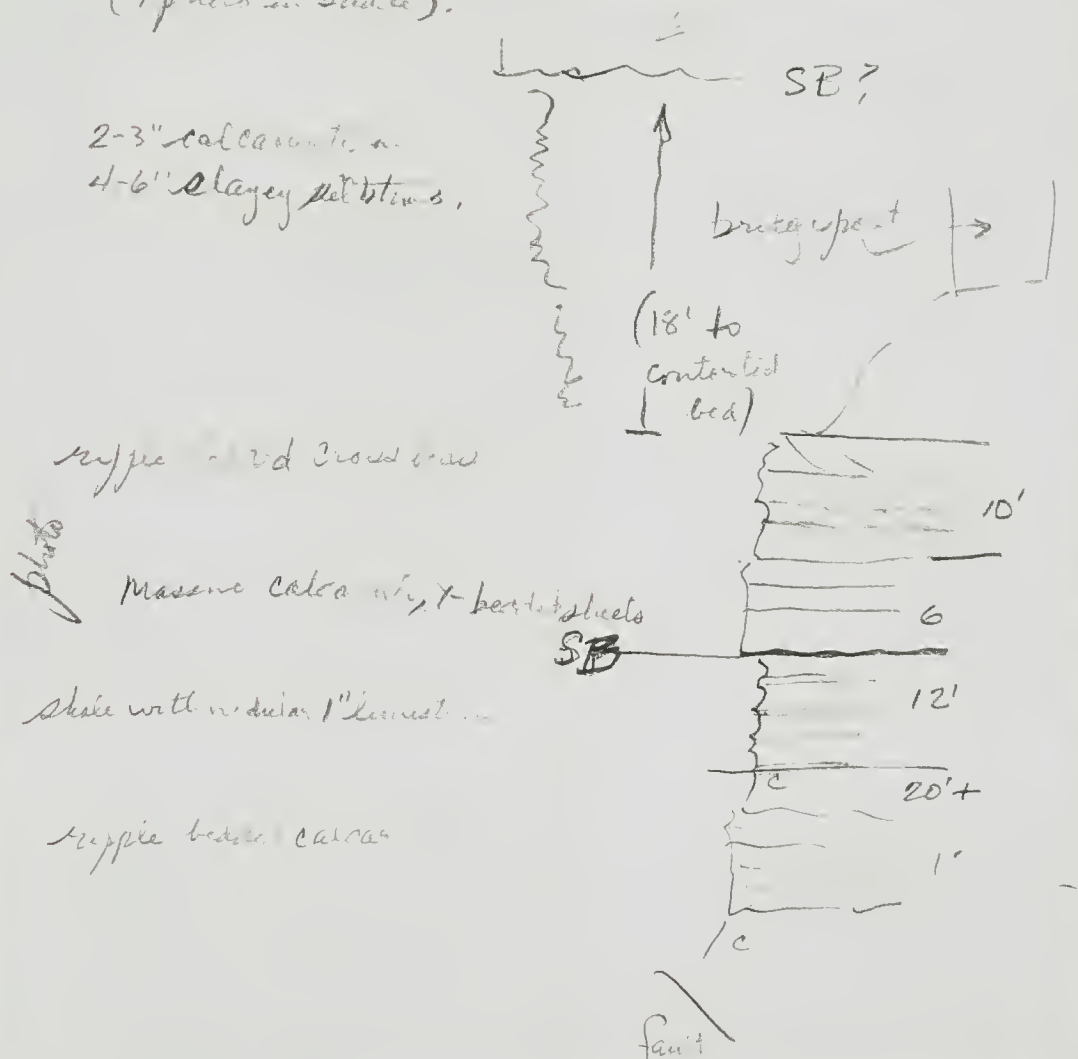
(60)

(4b)

Road down to Clays Ferry Campground

1 photo looking down on type Clays Ferry, garrard
siltstone at top, (see wire screen on Clay Ferry in
I-75 road cut.) Photo from lookout point.

Look over road down to river, - about 20' below ^{I-75} bridge
there is a 2-2 1/2' bed of contorted sandy siltstone
(1 photo in share).



6/13/98 - Forkville = Forkland

Key 37 (1)

(47)

dk grey

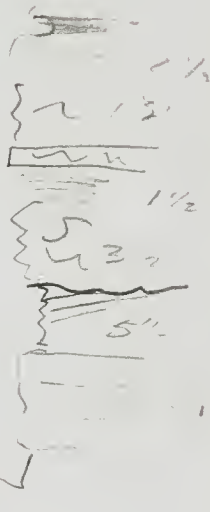
se. to. sh. in.

contacted sh. in.

11 ppe

beds, sh. in., se. to

SB?

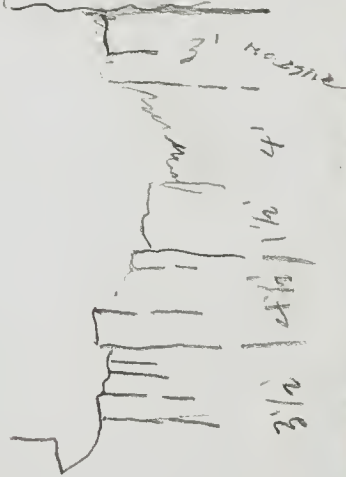


48 KY 1108 }
just S of
Crawford
Hollow

vagely ripple X bedded yellowish
v. sandy, recessed 6"
at base. in 11 p. SB

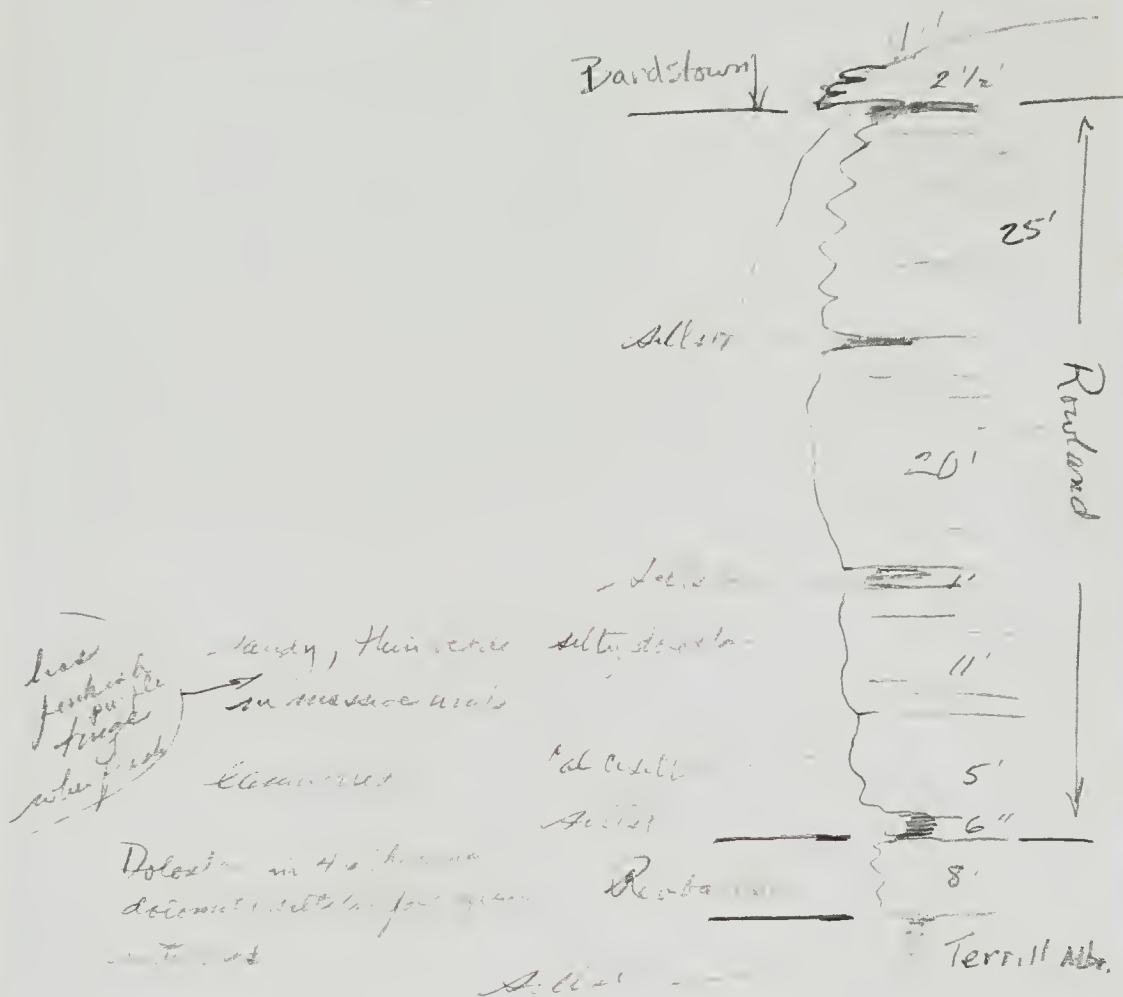
Laminated, dolomitic, section at group

Ledgers: silty, micaceous
Sandy dolomite



on ~~KY~~ 337, just N of Bradfordsville and junction with ~~KY~~ 49
 at the "Narrow" **49**

Position line



1 photo

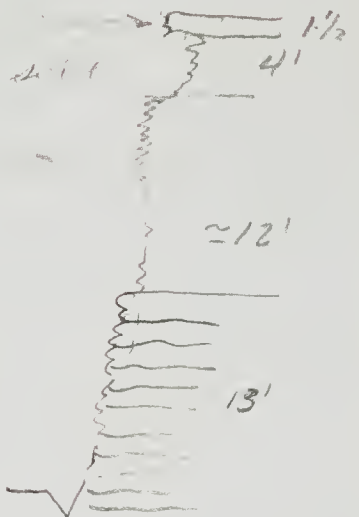
KY

(6.5)

6/13/98 — T₅₅ ~ 1 mile north of Airport Road turnoff
 Lebanon / Springfield airport (50)

probably from medium to + s.s.

photo



photo

2 near as

Silty siltstone, 1' - 1 1/2' beds, with
 silty bedding breaks, wavy,
 nodular beds.

Turning to Springfield — (51) Key 528.

Photo — section above fence cut —

IX
 Fredericks road cut 3/4 mile
 west of bridge on 150

(52)

2-4" beds of ss/mudstone
 ss/calc. 1' beds, sheet beds

lt gray-green laminated siltstone

photo - sheet below calcarenite

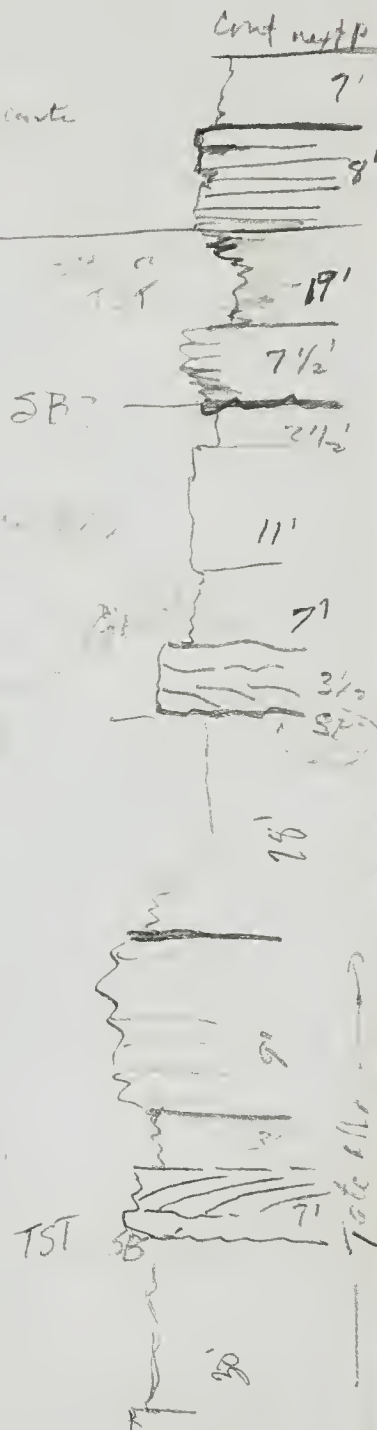
siltstone, calc. + some ...

siltstone with ...

ripple beds, silty ...
 1'-6" ...

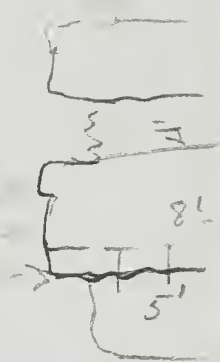
photo a
 silty calcarenite X-bedded,
 large fossil frags common

siltst, lt gray weathering



(contd.)

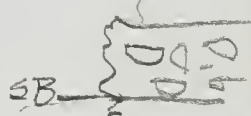
1' 11" ~~...~~
 Dolomite, X bedded, wuggy,
 lowest bed (1 1/2') is calc. / a. w. fine white
 Siltstone, massive, 6' 1" calc.



Point

Siltst, dolomite, sandy, burrowed

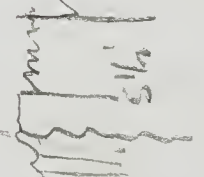
Stromas and
 Colonial coral bed! a net a c 2 1/2' across, but
 are upside down!!



Point

Calcium siltst + calc. + dolomite
 burrowed

Rapport beds silt, w. burrowed

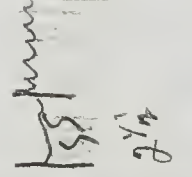


2" 4" dolomite calcarenite + marl

SB

Point

lt. grayish green siltstone (has yellow)





6/14/98. Scouted on US 36 northwest of (67)
Cynthiana for section in Prof Paper 768
plate 3. Took Ky 1743 off US 36 & circled
round back to US 36—occasional otc
partly overgrown but nothing else.

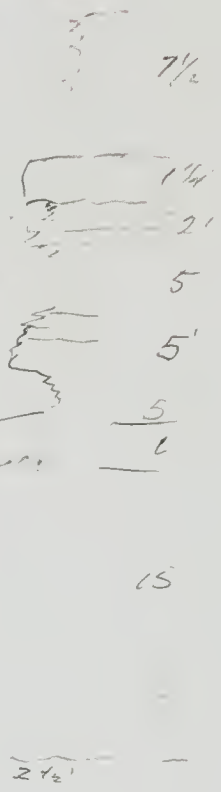
Took US 27 north to Falmouth. hunch
on Curry Road "green island" At one
time, there may have been a sequence
of cuts which showed the section, but
these are none now.

We'd stopped
on remnant of old highway

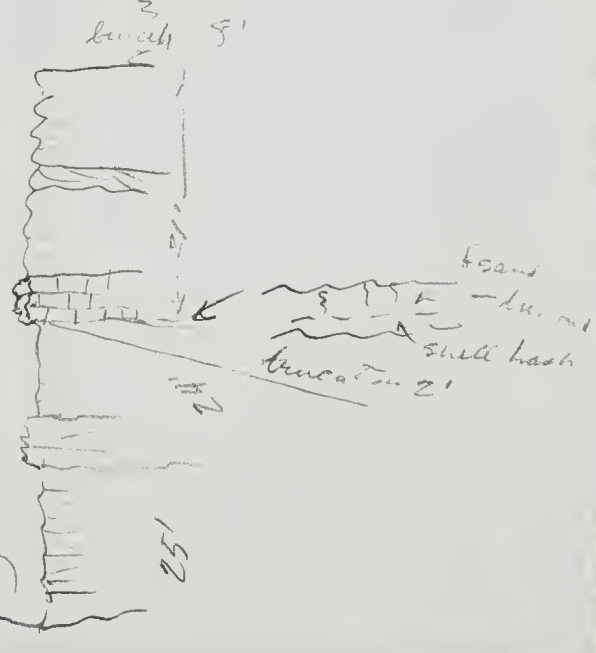
6/14/98 Majorville, Ky - Junction Ky 9 + Ky 11,
Roadcuts on Ky 11 north of junction (54)

Photo (full sun)

Thinly bedded, ... 1/2, s. d. ...
... poorly "bedded", ...
... laminated ...
... (cal ... to 19)
... ripple bedded g/p



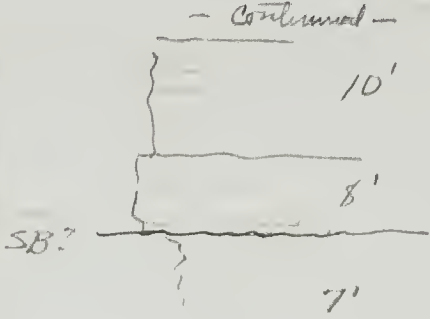
fossil. hash ... with g/p)
and ...
1'-6' ripple-bedded, and
nodular bedded, some
x-bedded,



Photo

W side of Kgl

Photo ↑
silt, ^{massive} 4' bed at base
E side
much ^{thin} silty



upper beds: siltstone
iron stained, fossil
lenses (grades beds)

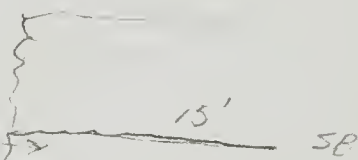
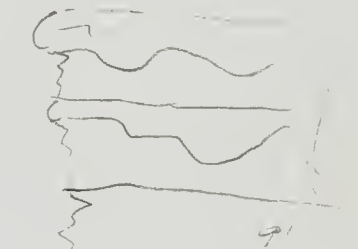


Photo
a. siltstone, in clay, siltstone
2-3' 3- cont. to beds

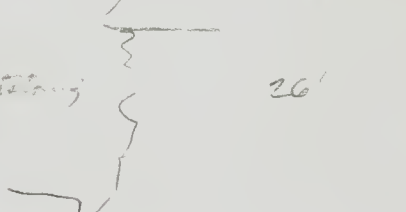


Siltstone + clay + siltstone



grades calcareous

mod. siltstone + clay, siltstone
a few grades
2"-5" beds



next rock

ripple bedded calc. 1/8

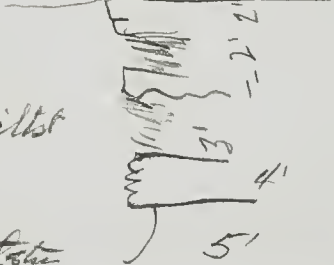


Sandy brown calc. concretions + calc. silt.

Clayey siltst

cal siltstone with clayey siltst.

clayey siltstone



(70)

Continued

C 15'

28'

photo

clay, siltstone & v. fine 1-3"
calc siltstone

(55)

Maypsville, Ky

5/26/45

(56)

3/4 mi

Shopping center -
quarried wall behind buildings

9/1

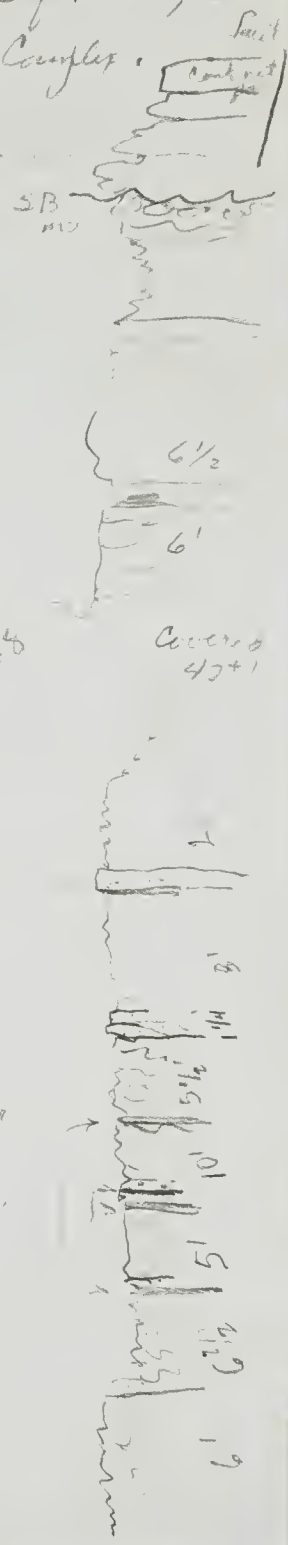
Paris Ky 6/15/98 - US. 68, "by-pass" north side of Paris, at
57 near Brown compass and YMCA Soccer Complex.

silty calc. siltst.
sheet in road cut, with
pebbles & leaves

calc. silt 0-4"
p/g with floors on facing, X-bedded
silt & p

This is latest
junction of
Paris & US. 68
at 6/15/98

ligno. zone



Photo

siltstone (siltstone?) 3"-4"

coarse calc. siltst., with 1"-3" beds,
ripple bedded, fairly massive, p/g
limestone? nodules w/ "pebbles"

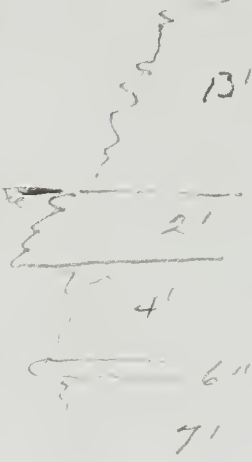


2-3' calc. 1-1 1/2' clay

Significant change in lithology here

Plan
Part 4

1-2' red brown, fossil
fossil, silt, clay



This section is ...
to 71 by a ...

58

Southern, Rosebud

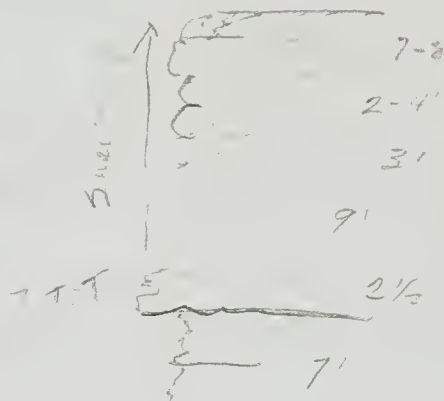
Kentucky.

Photo (new-voit)

suppl. 1. p/g 11-12

Null. infus. + vit. a.

M.

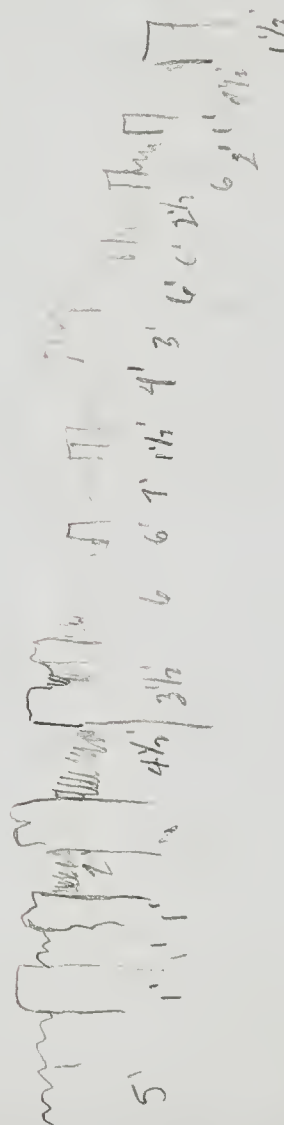


6
10/15/98
U.S. 68

adjacent to
Section of Blue Licks Battle Field in Perry, Ky.
(11/8/98)

59

photo



3-4 m. of blue limestone p/g, a u
1-2 section

6/15/98 contd. We continued north on
US 68 looking at cuts - some grassed
over - to Mayaville. At top of hill to
Kroger & WalMart.

From Mayaville to I275 near
Covington on Ky 9. A good highway
with numerous extensive, long
sections. Lot of shale in sections.

I275 to motel on Nine Mile Road.

(Lunch at Blue Hicks Battlefield
State Park - Daniel Boone et al
memorial to commemorate the
1782 battle where 102? men lost their
lives & the Amer. were defeated by
the English & Indians.

6/16/98

(75)

U.S. 32 east

(Started day by leaving film at Meijer's for printing - 2 rolls)

Then picked up
to relocate 1995 field stops at
(35) in 1995 field book

The ramp exposure has small trees growing on it but the strat. section is still discernible. Filager Rd section⁽³⁷⁾ is rapidly being overgrown as is the "Batavia Rd" section where there is presently extensive road repaving taking place.

(MacDonalds; State Police; & various other quick food restaurants (Aolies, Burger King, at exit ramp at top of hill (& section))

(76)

6/16/98 U.S. 32. Stop 39 in 1995 field trip
not long road cut on east side of valley
Did Siln. 5 photos
check?

Stone Rd (N/S) at top of hill

Stop 40 ^{1995 field trip} on ~~US~~ OH 41 at southern end
of bridge & at Oliver Rd Allen township
line

Stop 41 (1995 field trip). 2 photos

Just north of Stop 42 (1995 field trip)
1 photo west side of road

300 yd. north of previous photo. 1 photo

Stop 42, west side of road. 1 photo

Stop 43 ^{road cut} west side of Whiteoak Creek.
4 photos

Contd in Book 2.

Wilson, C.W., 1949, Pre-Chattanooga stratigraphy of central
Tennessee; Tennessee Division of Geol. Bull. 56, 406 pp.
do, 1962, Stratigraphy and geologic history of
Middle Ord. rocks of central Tennessee,
Geol. Soc. Amer. Bull. v. 73, 481-504.

Wilson, Charles W. Jr. 1990. Pre-Chattanooga
Strat. in Central Tennessee 1990
2nd ed. State of Tennessee, Dept. of
Conservation, Division of Geology
Bull 56. 415 p.

Expenditures:

Please return to: T.R.P. Road, Dept. of Biology
 Wheaton Washington University, Beltsville
 WA. 98225.

RULES OF PUNCTUATION*

Use Of The Period

The period (.) is used after a declarative or an imperative sentence, after courteous requests, and after abbreviations and initials.

The order was shipped yesterday.

(declarative)

Ship the order immediately: (imperative)

Will you send me a copy of your latest bulletin.

Dr. Mrs. A.M.

Use Of The Comma

The comma (,) is used after an adverbial dependent clause when the dependent clause precedes the main clause. When the dependent clause does not begin the sentence, the comma is usually unnecessary.

After the director had read the minutes of the meeting, he called for the financial report.

The director called for the financial report after he had read the minutes of the meeting.

The comma is also used after a participial phrase or an absolute phrase at the beginning of a sentence, after an introductory infinitive phrase, and to set off parenthetical expressions, whether words, phrases, or clauses.

Use Of The Semicolon

The semicolon (;) is used to show a stronger separation between the parts of a sentence than does a comma. In most writing, however, the use of the semicolon should be avoided because it is generally too stiff and formal. If you use a great many semicolons, the chances are that you are either using them incorrectly, or you are writing sentences that are too long. Semicolons produce rather involved sentence patterns. Use them sparingly.

1. The semicolon is used to separate independent co-ordinate clauses closely connected in meaning when no co-ordinate conjunction is used.

The sales staff meets every other Tuesday; the production staff meets only once a month.

Use Of The Colon

The colon (:) indicates the strongest possible break within a sentence.

1. The colon is used before a list of items or details, before an appositive phrase or clause, and after the salutation of a business letter.

Please send out the following items: No. 378, No. 315, and No. 370.

Use Of Parentheses

Our company has always had this policy: The customer is always right.

Dear Mr. Roe: Gentlemen:

Parentheses () are used to set off words, phrases, clauses, or sentences which are used by way of explanation, translation, or comment. Also use to enclose a number, letter, or symbol when used as an appositive.

His appointment (which will be announced next week) will be a surprise to many.

The dash (—) is used to indicate an abrupt change of ideas, but should be used sparingly. The dash may also be used to indicate a summarizing thought or an afterthought added to the end of the sentence, and to set off a word or phrase repeated for emphasis.

Use Of The Question Mark

The question mark (?) is used after all interrogative sentences that ask direct questions.

Use Of The Exclamation Mark

The exclamation mark (!) is used after all exclamatory sentences—sentences that express surprise, emotion, or deep feeling. Also use after interjections or after statements which are commands or which imply need for immediate action.

Your answer was hard to believe! Hurry! Send your order now!

Quotations

1. Quotation marks (" ") are used to enclose a direct quotation. Each part of an interrupted quotation begins and ends with quotation marks.

2. Quotation marks are used to enclose the names of songs, titles of poems, and other titles of magazine articles, chapters of books, titles of books, magazines, operas, and any other works of art long enough to appear in book form. Underlining signifies italics for printing.

The New York Times includes a section entitled "The Talk Of The Town."

53-7
 2-3
 9/5
 8.
 525
 555

No. 43-8618

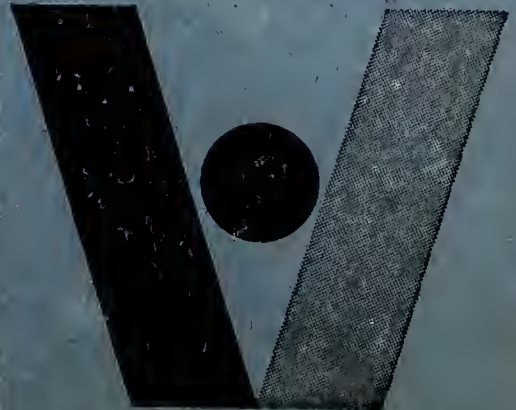
TO:

—HAROLD BLANKING, CHAIRMAN, CHS ASSESS

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